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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

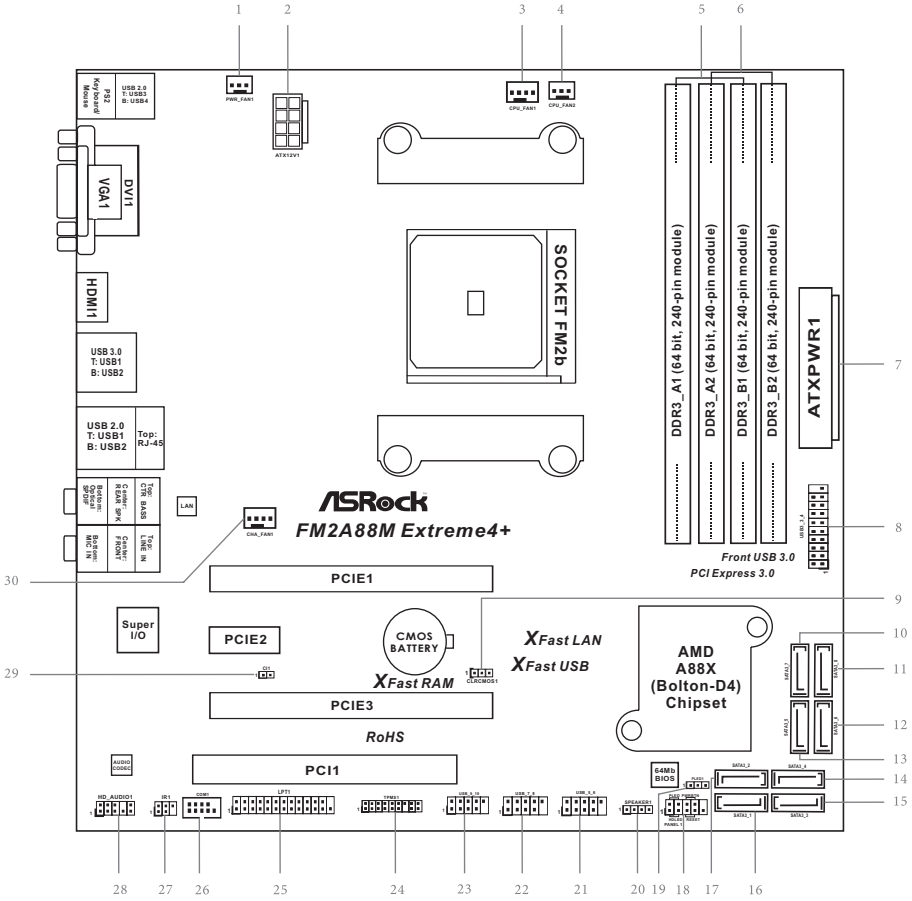
CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.com

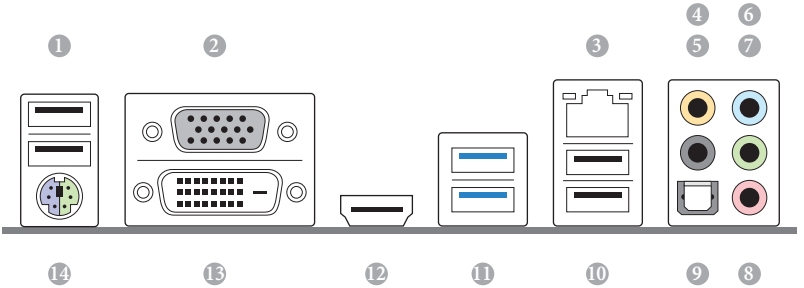
English

Motherboard Layout



No.	Description
1	Power Fan Connector (PWR_FAN1)
2	ATX 12V Power Connector (ATX12V1)
3	CPU Fan Connector (CPU_FAN1)
4	CPU Fan Connector (CPU_FAN2)
5	2 x 240-pin DDR3 DIMM Slots (DDR3_A1, DDR3_B1)
6	2 x 240-pin DDR3 DIMM Slots (DDR3_A2, DDR3_B2)
7	ATX Power Connector (ATXPWR1)
8	USB 3.0 Header (USB3_3_4)
9	Clear CMOS Jumper (CLRCMOS1)
10	SATA3 Connector (SATA3_7)
11	SATA3 Connector (SATA3_8)
12	SATA3 Connector (SATA3_6)
13	SATA3 Connector (SATA3_5)
14	SATA3 Connector (SATA3_4)
15	SATA3 Connector (SATA3_3)
16	SATA3 Connector (SATA3_1)
17	SATA3 Connector (SATA3_2)
18	System Panel Header (PANEL1)
19	Power LED Header (PLED1)
20	Chassis Speaker Header (SPEAKER1)
21	USB 2.0 Header (USB_5_6)
22	USB 2.0 Header (USB_7_8)
23	USB 2.0 Header (USB_9_10)
24	TPM Header (TPMS1)
25	Print Port Header (LPT1)
26	COM Port Header (COM1)
27	Infrared Module Header (IR1)
28	Front Panel Audio Header (HD_AUDIO1)
29	Chassis Intrusion Header (CI1)
30	Chassis Fan Connector (CHA_FAN1)

I/O Panel

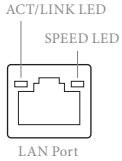


No.	Description	No.	Description
1	USB 2.0 Ports (USB_3_4)*	8	Microphone (Pink)
2	D-Sub Port	9	Optical SPDIF Out Port
3	LAN RJ-45 Port**	10	USB 2.0 Ports (USB_1_2)*
4	Central / Bass (Orange)	11	USB 3.0 Ports (USB3_1_2) (AMD A88X (Bolton-D4))
5	Rear Speaker (Black)	12	HDMI Port
6	Line In (Light Blue)	13	DVI-D Port
7	Front Speaker (Lime)***	14	PS/2 Mouse/Keyboard Port

English

** It is recommended to install the USB Keyboard/Mouse cable to USB 2.0 ports (USB_1_2 or USB_3_4) instead of USB 3.0 ports.*

*** There are two LEDs on the LAN port. Please refer to the table below for the LAN port LED indications.*



Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

**** If you use a 2-channel speaker, please connect the speaker's plug into "Front Speaker Jack". See the table below for connection details in accordance with the type of speaker you use.*

Audio Output Channels	Front Speaker (No. 7)	Rear Speaker (No. 5)	Central / Bass (No. 4)	Line In or Side Speaker (No. 6)
2	V	--	--	--
4	V	V	--	--
6	V	V	V	--
8	V	V	V	V

To enable Multi-Streaming, you need to connect a front panel audio cable to the front panel audio header. After restarting your computer, you will find the "Mixer" tool on your system. Please select "Mixer ToolBox" , click "Enable playback multi-streaming", and click "ok". Choose "2CH", "4CH", "6CH", or "8CH" and then you are allowed to select "Realtek HDA Primary output" to use the Rear Speaker, Central/Bass, and Front Speaker, or select "Realtek HDA Audio 2nd output" to use the front panel audio.

English

1. Introduction

Thank you for purchasing ASRock ***FM2A88M Extreme4+*** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

This Quick Installation Guide contains introduction of the motherboard and step-by-step installation guide. More detailed information of the motherboard can be found in the user manual presented in the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website http://www.asrock.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. www.asrock.com/support/index.asp

1.1 Package Contents

ASRock ***FM2A88M Extreme4+*** Motherboard (Micro ATX Form Factor)
ASRock ***FM2A88M Extreme4+*** Quick Installation Guide
ASRock ***FM2A88M Extreme4+*** Support CD
2 x Serial ATA (SATA) Data Cables (Optional)
1 x I/O Panel Shield

ASRock Reminds You...

To get better performance in Windows® 8 / 8 64-bit / 7 / 7 64-bit, it is recommended to set the BIOS option in Storage Configuration to AHCI mode. For the BIOS setup, please refer to the "User Manual" in our support CD for details.

English

1.2 Specifications

Platform	- Micro ATX Form Factor - All Solid Capacitor design
A-Style	- Home Cloud
CPU	- Supports Socket FM2+ 95W / FM2 100W processors - 4 + 2 Power Phase design
Chipset	- AMD A88X (Bolton-D4)
Memory	- Dual Channel DDR3 Memory Technology - 4 x DDR3 DIMM Slots - Supports DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066 non-ECC, un-buffered memory (see **CAUTION 1**) * DDR3 2600+ is only supported with two DIMMs. - Max. capacity of system memory: 64GB (see **CAUTION 2**) - Supports Intel® Extreme Memory Profile (XMP) 1.3 / 1.2 - Supports AMD Memory Profile (AMP)
Expansion Slot	- 1 x PCI Express 3.0 x16 Slot (PCIE1 @ x16 mode) * PCIE 3.0 is only supported with FM2+ CPU. With FM2 CPU, it only supports PCIE 2.0. - 1 x PCI Express 2.0 x16 Slot (PCIE3 @ x4 mode) - 1 x PCI Express 2.0 x1 Slot - 1 x PCI Slot - Supports AMD Quad CrossFireX™, CrossFireX™ and Dual Graphics
Graphics	- Integrated AMD Radeon HD 8000/7000 series graphics in A-series APU - DirectX 11.1, Pixel Shader 5.0 with FM2+ CPU. DirectX 11, Pixel Shader 5.0 with FM2 CPU. - Max. shared memory 2GB - Three VGA output options: D-Sub, DVI-D and HDMI Ports - Supports Triple Monitor - Supports HDMI Technology with max. resolution up to 1920x1200 @ 60Hz - Supports Dual-link DVI-D with max. resolution up to 2560x1600 @ 60Hz - Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz - Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI Port (Compliant HDMI monitor is required) (see **CAUTION 3**) - Supports Blu-ray Stereoscopic 3D with HDMI Port

	- Supports AMD Steady Video™ 2.0: New video post processing capability for automatic jitter reduction on home/online video - Supports HDCP with DVI-D and HDMI Ports - Supports Full HD 1080p Blu-ray (BD) playback with DVI-D and HDMI Ports
Audio	- 7.1 CH HD Audio with Content Protection (Realtek ALC892 Audio Codec) - Premium Blu-ray Audio support
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Supports Qualcomm® Atheros® Security Wake On Internet Technology - Supports Wake-On-LAN - Supports Energy Efficient Ethernet 802.3az - Supports PXE
Rear Panel I/O	- 1 x PS/2 Mouse/Keyboard Port - 1 x D-Sub Port - 1 x DVI-D Port - 1 x HDMI Port - 1 x Optical SPDIF Out Port - 4 x USB 2.0 Ports - 2 x USB 3.0 Ports (AMD A88X (Bolton-D4)) - 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) - HD Audio Jacks: Rear Speaker/Central/Bass/Line in/Front Speaker/Microphone
Storage	- 8 x SATA3 6.0 Gb/s Connectors, support RAID (RAID 0, RAID 1, RAID 5 and RAID 10), NCQ, AHCI and Hot Plug
Connector	- 1 x IR Header - 1 x Print Port Header - 1 x COM Port Header - 1 x Chassis Intrusion Header - 1 x TPM Header - 1 x Power LED Header - 2 x CPU Fan Connectors (1 x 4-pin, 1 x 3-pin) - 1 x Chassis Fan Connector (4-pin) - 1 x Power Fan Connector (3-pin) - 1 x 24 pin ATX Power Connector - 1 x 8 pin 12V Power Connector - 1 x Front Panel Audio Connector

	- 3 x USB 2.0 Headers (Support 6 USB 2.0 ports) - 1 x USB 3.0 Header by AMD A88X (Bolton-D4) (Supports 2 USB 3.0 ports)
BIOS Feature	- 64Mb AMI UEFI Legal BIOS with GUI support - Supports "Plug and Play" - ACPI 1.1 compliance wake up events - Supports jumperfree - SMBIOS 2.3.1 support - DRAM, CPU Voltage multi-adjustment
Support CD	- Drivers, Utilities, AntiVirus Software (Trial Version), CyberLink MediaEspresso 6.5 Trial, Google Chrome Browser and Toolbar, Start8 (30 days trial)
Hardware Monitor	- CPU temperature sensing - Chassis temperature sensing - CPU Fan Tachometer - Chassis Fan Tachometer - CPU/Chassis Quiet Fan - CPU/Chassis Fan multi-speed control - CASE OPEN detection - Voltage monitoring: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
Certifications	- FCC, CE, WHQL - ErP/EuP ready (ErP/EuP ready power supply is required)

* For detailed product information, please visit our website: http://www.asrock.com

WARNING

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

English

CAUTION!

1. Whether 2600/2400/2133/1866/1600MHz memory speed is supported depends on the CPU you adopt. If you want to adopt DDR3 2600/2400/2133/1866/1600 memory module on this motherboard, please refer to the memory support list on our website for the compatible memory modules.
   ASRock website http://www.asrock.com
2. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 8 / 7. For Windows® 64-bit OS with 64-bit CPU, there is no such limitation. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use.
3. xvYCC and Deep Color are only supported under Windows® 8 64-bit / 8 / 7 64-bit / 7. Deep Color mode will be enabled only if the display supports 12bpc in EDID. HBR is supported under Windows® 8 64-bit / 8 / 7 64-bit / 7.

English

1.3 Unique Features

ASRock A-Tuning

A-Tuning is ASRock's multi purpose software suite with a new interface, more new features and improved utilities, including XFast RAM, Dehumidifier, Good Night LED, FAN-Tastic Tuning, OC Tweaker and a whole lot more.

ASRock Instant Boot

ASRock Instant Boot allows you to turn on your PC in just a few seconds, provides a much more efficient way to save energy, time, money, and improves system running speed for your system. It leverages the S3 and S4 ACPI features which normally enable the Sleep/Standby and Hibernation modes in Windows® to shorten boot up time. By calling S3 and S4 at specific timing during the shutdown and startup process, Instant Boot allows you to enter your Windows® desktop in a few seconds.

ASRock Instant Flash

ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access ASRock Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

ASRock APP Charger

If you desire a faster, less restricted way of charging your Apple devices, such as iPhone/iPad/iPod Touch, ASRock has prepared a wonderful solution for you - ASRock APP Charger. Simply install the APP Charger driver, it makes your iPhone charge much quickly from your computer and up to 40% faster than before. ASRock APP Charger allows you to quickly charge many Apple devices simultaneously and even supports continuous charging when your PC enters into Standby mode (S1),

Suspend to RAM (S3), hibernation mode (S4) or power off (S5). With APP Charger driver installed, you can easily enjoy the marvelous charging experience.

ASRock XFast USB

ASRock XFast USB can boost USB storage device performance. The performance may depend on the properties of the device.

ASRock XFast LAN

ASRock XFast LAN provides a faster internet access, which includes the benefits listed below. LAN Application Prioritization: You can configure your application's priority ideally and/or add new programs. Lower Latency in Game: After setting online game's priority higher, it can lower the latency in games. Traffic Shaping: You can watch Youtube HD videos and download simultaneously. Real-Time Analysis of Your Data: With the status window, you can easily recognize which data streams you are transferring currently.

ASRock XFast RAM

ASRock XFast RAM is included in A-Tuning. It fully utilizes the memory space that cannot be used under Windows® 32-bit operating systems. ASRock XFast RAM shortens the loading time of previously visited websites, making web surfing faster than ever. And it also boosts the speed of Adobe Photoshop 5 times faster. Another advantage of ASRock XFast RAM is that it reduces the frequency of accessing your SSDs or HDDs in order to extend their lifespan.

ASRock Crashless BIOS

ASRock Crashless BIOS allows users to update their BIOS without fear of failing. If power loss occurs during the BIOS update process, ASRock Crashless BIOS will automatically finish the BIOS update procedure after regaining power. Please note that BIOS files need to be placed in the root directory of your USB disk. Only USB2.0 ports support this feature.

ASRock OMG (Online Management Guard)

Administrators are able to establish an internet curfew or restrict internet access at specified times via OMG. You may schedule

the starting and ending hours of internet access granted to other users. In order to prevent users from bypassing OMG, guest accounts without permission to modify the system time are required.

ASRock Internet Flash

ASRock Internet Flash searches for available UEFI firmware updates from our servers. In other words, the system can auto-detect the latest UEFI from our servers and flash them without entering Windows® OS.

ASRock UEFI System Browser

ASRock UEFI system browser is a useful tool included in graphical UEFI. It can detect the devices and configurations that users are currently using in their PC. With the UEFI system browser, you can easily examine the current system configuration in UEFI setup.

ASRock UEFI Tech Service

Contact ASRock Tech Service by sending a support request from the UEFI setup utility if you are having trouble with your PC.

ASRock On/Off Play Technology

ASRock On/Off Play Technology allows users to enjoy the great audio experience from the portable audio devices, such like MP3 player or mobile phone to your PC, even when the PC is turned off (or in ACPI S5 mode)! This motherboard also provides a free 3.5mm audio cable (optional) that ensures users the most convenient computing environment.

ASRock Dehumidifier Function

Users may prevent motherboard damages due to dampness by enabling “Dehumidifier Function”. When enabling Dehumidifier Function, the computer will power on automatically to dehumidify the system after entering S4/S5 state.

ASRock Easy RAID Installer

ASRock Easy RAID Installer can help you to copy the RAID driver from a support CD to your USB storage device. After copying the RAID driver to your USB storage device, please change “SATA Mode” to “RAID”, then you can start installing the OS in RAID mode.

ASRock Easy Driver Installer

For users that don’t have an optical disk drive to install the drivers from our support CD, Easy Driver Installer is a handy tool in the UEFI that installs the LAN driver to your system via an USB storage device, then downloads and installs the other required drivers automatically.

ASRock Interactive UEFI

ASRock Interactive UEFI is a blend of system configuration tools, cool sound effects and stunning visuals. The unprecedented UEFI provides a more attractive interface and brings a lot more amusing.

ASRock Fast Boot

With ASRock’s exclusive Fast Boot technology, it takes less than 1.5 seconds to logon to Windows® 8 from a cold boot. No more waiting! The speedy boot will completely change your user experience and behavior.

ASRock X-Boost

Brilliantly designed for combo overclocking, ASRock X-Boost Technology is able to unleash the hidden power of your CPUs. Simply press “X” when turning on the PC, X-Boost will automatically overclock the relative components to get up to 15.77% performance boost! With the smart X-Boost, overclocking CPU can become a near one-button process.

ASRock Restart to UEFI

Windows® 8 brings the ultimate boot up experience. The lightning boot up speed makes it hard to access the UEFI setup. ASRock Restart to UEFI technology is designed for those requiring frequent UEFI access. It is included in ASRock’s exclusive all-in-one A-Tuning tuning program that allows users to easily enter the UEFI automatically when turning on the PC next time. Just

simply enable this function; the PC will be assured to access the UEFI directly in the very beginning.

ASRock USB Key

In a world where time is money, why waste precious time everyday typing usernames to log in to Windows? Why should we even bother memorizing those foot long passwords? Just plug in the USB Key and let your computer log in to windows automatically!

ASRock FAN-Tastic Tuning

ASRock FAN-Tastic Tuning is included in A-Tuning. Configure up to five different fan speeds using the graph. The fans will automatically shift to the next speed level when the assigned temperature is met.

2. Installation

This is a Micro ATX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

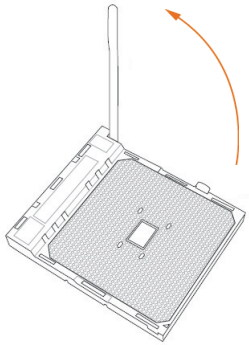
Take note of the following precautions before you install motherboard components or change any motherboard settings.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

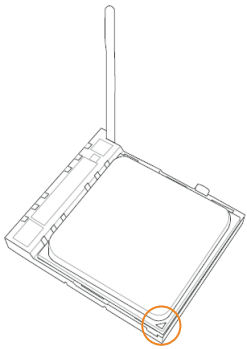
2.1 CPU Installation

Step 1. Unlock the socket by lifting the lever up to a 90° angle.



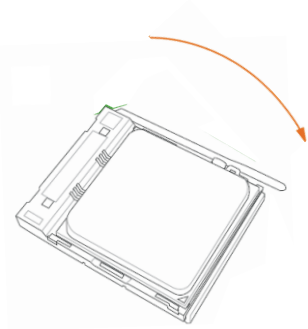
Step 2. Position the CPU directly above the socket such that the CPU corner with the golden triangle matches the socket corner with a small triangle.

Step 3. Carefully insert the CPU into the socket until it fits in place.



The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to avoid bending of the pins.

Step 4. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.



English

2.2 Installation of CPU Fan and Heatsink

After you install the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. You also need to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU FAN connector (CPU_FAN1, see Page 2, No. 3 or CPU_FAN2, see Page 2, No. 4). For proper installation, please kindly refer to the instruction manuals of the CPU fan and the heatsink.

2.3 Installation of Memory Modules (DIMM)

This motherboard provides four 240-pin DDR3 (Double Data Rate 3) DIMM slots, and supports Dual Channel Memory Technology.

1. *For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR3 DIMM pairs.*
2. *It is unable to activate Dual Channel Memory Technology with only one or three memory module installed.*
3. *It is not allowed to install a DDR or DDR2 memory module into a DDR3 slot; otherwise, this motherboard and DIMM may be damaged.*
4. *If you adopt DDR3 2600/2400/2133/1866/1600 memory modules on this motherboard, it is recommended to install them on DDR3_A2 and DDR3_B2 slots.*

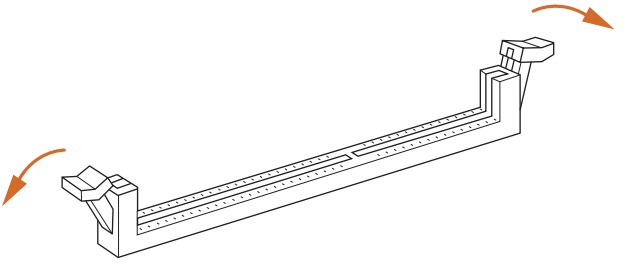
Dual Channel Memory Configuration

Priority	DDR3_A1	DDR3_A2	DDR3_B1	DDR3_B2
1	Populated		Populated	
2		Populated		Populated
3	Populated	Populated	Populated	Populated

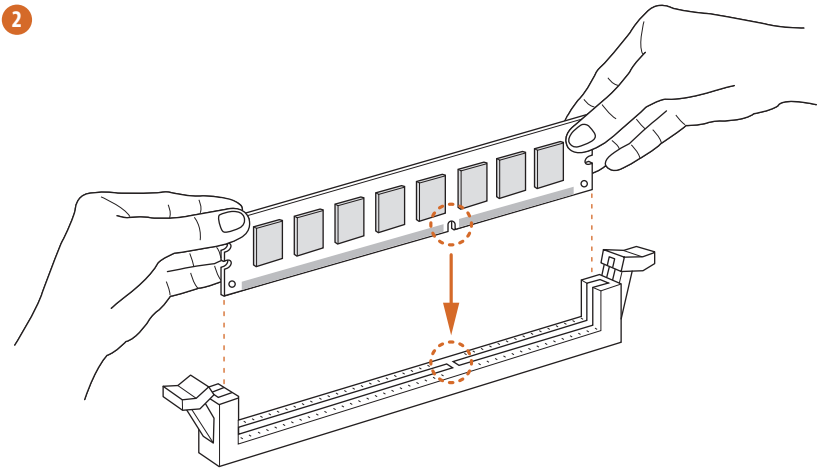
The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

English

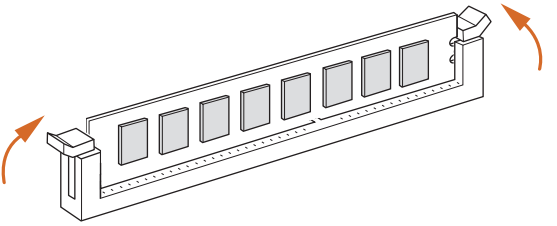
1



2



3



English

2.4 Expansion Slots (PCI and PCI Express Slots)

There is 1 PCI slot and 3 PCI Express slots on this motherboard.

Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

PCI Slots: PCI slots are used to install expansion cards that have the 32-bit PCI interface.

PCIE Slots:

PCIE1 (PCIe 3.0 x16 slot) is used for PCI Express x16 lane width graphics cards.

PCIE2 (PCIe 2.0 x1 slot) is used for PCI Express cards with x1 lane width cards.

PCIE3 (PCIe 2.0 x16 slot) is used for PCI Express x4 lane width graphics cards.

PCIe Slot Configurations

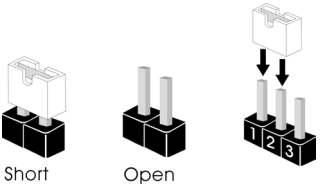
	PCIE1	PCIE3
Single Graphics Card	x16	N/A
Two Graphics Cards in CrossFireX™ Mode	x16	x4

For a better thermal environment, please connect a chassis fan to the motherboard's chassis fan connector (CHA_FAN1) when using multiple graphics cards.

English

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Jumper	Setting	Description
Clear CMOS Jumper (CLRCMOS1) (see p.2, No. 9)	Default Clear CMOS	

Note: CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile, 1394 GUID and MAC address will be cleared only if the CMOS battery is removed.

If you clear the CMOS, the case open may be detected. Please adjust the BIOS option “Clear Status” to clear the record of previous chassis intrusion status.

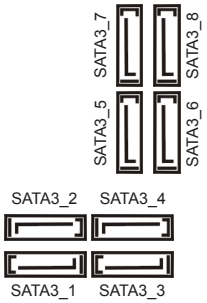
English

2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

Serial ATA3 Connectors

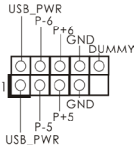
(SATA3_1: see p.2, No. 16)
(SATA3_2: see p.2, No. 17)
(SATA3_3: see p.2, No. 15)
(SATA3_4: see p.2, No. 14)
(SATA3_5: see p.2, No. 13)
(SATA3_6: see p.2, No. 12)
(SATA3_7: see p.2, No. 10)
(SATA3_8: see p.2, No. 11)



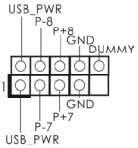
These eight Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

USB 2.0 Headers

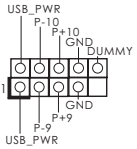
(9-pin USB_5_6)
(see p.2 No. 21)



(9-pin USB_7_8)
(see p.2 No. 22)



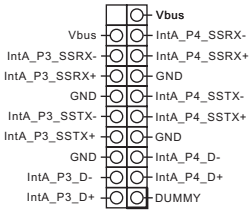
(9-pin USB_9_10)
(see p.2 No. 23)



Besides four default USB 2.0 ports on the I/O panel, there are three USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

USB 3.0 Header

(19-pin USB3_3_4)
(see p.2, No. 8)



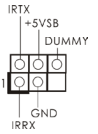
Besides two default USB 3.0 ports on the I/O panel, there is one USB 3.0 header on this motherboard. This USB 3.0 header can support two USB 3.0 ports.

English

Infrared Module Header

(5-pin IR1)

(see p.2 No. 27)

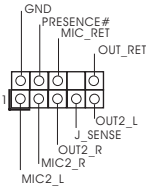


This header supports an optional wireless transmitting and receiving infrared module.

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.2 No. 28)



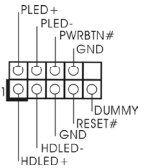
This is an interface for the front panel audio cable that allows convenient connection and control of audio devices.

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
2. If you use AC'97 audio panel, please install it to the front panel audio header as below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
   E. To activate the front mic.
      For Windows® 8 / 8 64-bit / 7 / 7 64-bit 64-bit OS:
      Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

System Panel Header

(9-pin PANEL1)

(see p.2 No. 18)



This header accommodates several system front panel functions.

Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

English

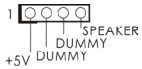
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the sys-tem is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

Chassis Speaker Header
(4-pin SPEAKER 1)
(see p.2 No. 20)

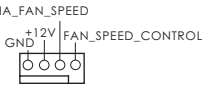


Please connect the chassis speaker to this header.

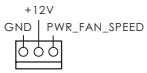
Power LED Header
(3-pin PLED1)
(see p.2 No. 19)

Please connect the chassis power LED to this header to indicate system power status. The LED is on when the system is operating. The LED keeps blinking in S1 state. The LED is off in S3/S4 state or S5 state (power off).

Chassis and Power Fan Connectors
(4-pin CHA_FAN1)
(see p.2 No. 30)



(3-pin PWR_FAN1)
(see p.2 No. 1)



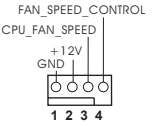
Please connect the fan cables to the fan connectors and match the black wire to the ground pin. CHA_FAN1 fan speed can be controlled through UEFI or A-Tuning.

English

CPU Fan Connectors

(4-pin CPU_FAN1)

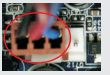
(see p.2 No. 3)



Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

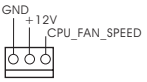
Pin 1-3 Connected



3-Pin Fan Installation

(3-pin CPU_FAN2)

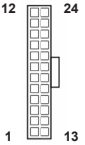
(see p.2 No. 4)



ATX Power Connector

(24-pin ATXPWR1)

(see p.2 No. 7)



Please connect an ATX power supply to this connector.

Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13.

20-Pin ATX Power Supply Installation

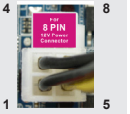
ATX 12V Power Connector

(8-pin ATX12V1)

(see p.2 No. 2)

Please connect an ATX 12V power supply to this connector.

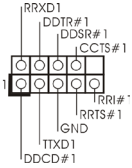
Though this motherboard provides 8-pin ATX 12V power connector, it can still work if you adopt a traditional 4-pin ATX 12V power supply. To use the 4-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 5.



4-Pin ATX 12V Power Supply Installation

English

Serial port Header
(9-pin COM1)
(see p.2 No. 26)

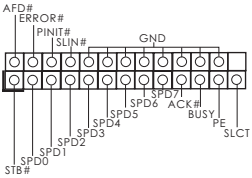


This COM1 header supports a serial port module.

Chassis Intrusion Header
(2-pin CI1)
(see p.2, No. 29)

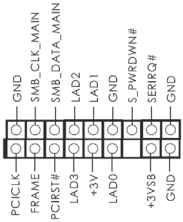
This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

Print Port Header
(25-pin LPT1)
(see p.2, No. 25)



This is an interface for print port cable that allows convenient connection of printer devices.

TPM Header
(17-pin TPMS1)
(see p.2, No. 24)



This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

English

3. BIOS Information

The Flash Memory on the motherboard stores BIOS Setup Utility. When you start up the computer, please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter BIOS Setup utility; otherwise, POST continues with its test routines. If you wish to enter BIOS Setup after POST, please restart the system by pressing <Ctl> + <Alt> + <Delete>, or pressing the reset button on the system chassis. The BIOS Setup program is designed to be user-friendly. It is a menu-driven program, which allows you to scroll through its various sub-menus and to select among the predetermined choices. For the detailed information about BIOS Setup, please refer to the User Manual (PDF file) contained in the Support CD.

4. Software Support CD information

This motherboard supports various Microsoft® Windows® operating systems: 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit. The Support CD that came with the motherboard contains necessary drivers and useful utilities that will enhance motherboard features. To begin using the Support CD, insert the CD into your CD-ROM drive. It will display the Main Menu automatically if “AUTORUN” is enabled in your computer. If the Main Menu does not appear automatically, locate and double-click on the file “ASRSETUP.EXE” from the BIN folder in the Support CD to display the menus.

1. Einführung

Wir danken Ihnen für den Kauf des ASRock ***FM2A88M Extreme4+*** Motherboard, ein zuverlässiges Produkt, welches unter den ständigen, strengen Qualitätskontrollen von ASRock gefertigt wurde. Es bietet Ihnen exzellente Leistung und robustes Design, gemäß der Verpflichtung von ASRock zu Qualität und Halbarkeit. Diese Schnellinstallationsanleitung führt in das Motherboard und die schrittweise Installation ein. Details über das Motherboard finden Sie in der Bedienungsanleitung auf der Support-CD.

Da sich Motherboard-Spezifikationen und BIOS-Software verändern können, kann der Inhalt dieses Handbuches ebenfalls jederzeit geändert werden. Für den Fall, dass sich Änderungen an diesem Handbuch ergeben, wird eine neue Version auf der ASRock-Website, ohne weitere Ankündigung, verfügbar sein. Die neuesten Grafikkarten und unterstützten CPUs sind auch auf der ASRock-Website aufgelistet.
ASRock-Website: http://www.asrock.com
Wenn Sie technische Unterstützung zu Ihrem Motherboard oder spezifische Informationen zu Ihrem Modell benötigen, besuchen Sie bitte unsere Webseite:
www.asrock.com/support/index.asp

1.1 Kartoninhalt

ASRock ***FM2A88M Extreme4+*** Motherboard (Micro ATX-Formfaktor)
ASRock ***FM2A88M Extreme4+*** Schnellinstallationsanleitung
ASRock ***FM2A88M Extreme4+*** Support-CD
Zwei Serial ATA (SATA) -Datenkabel (optional)
Ein I/O Shield

ASRock erinnert...
Zur besseren Leistung unter Windows® 8 / 8 64 Bit / 7 / 7 64 Bit empfehlen wir, die Speicherkonfiguration im BIOS auf den AHCI-Modus einzustellen. Hinweise zu den BIOS-Einstellungen finden Sie in der Bedienungsanleitung auf der mitgelieferten CD.

1.2 Spezifikationen

Plattform	- Micro ATX-Formfaktor - Vollständig solides Kondensatordesign
A-Stil	- Heim-Cloud
CPU	- Unterstützt Prozessoren für Sockel FM2+ (95 W) / FM2 (100 W) - 4 + 2-Stromphasendesign
Chipsatz	- AMD A88X (Bolton-D4)
Speicher	- Unterstützung von Dual-Kanal-Speichertechnologie - 4 x Steckplätze für DDR3 - Unterstützt DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066/800 non-ECC, ungepufferter Speicher * DDR3 2600+ wird nur mit zwei DIMMs unterstützt. - Max. Kapazität des Systemspeichers: 64GB - Unterstützt Intel® Extreme Memory Profile (XMP)1.3/1.2 - Unterstützt AMD Memory Profile (AMP)
Erweiterungs-steckplätze	- 1 x PCI Express 3.0 x16-Steckplatz (PCIE1: x6-Modus) * PCIE 3.0 wird nur mit FM2+-Prozessor unterstützt. FM2-Prozessor unterstützt nur PCIE 2.0. - 1 x PCI Express 2.0 x16-Steckplatz (PCIE3: x4-Modus) - 1 x PCI Express 2.0 x1-Steckplatz - 1 x PCI -Steckplatz - Unterstützt AMD Quad CrossFireX™, CrossFireX™ und duale Grafikkarten
Onboard-VGA	- Integrierte Grafikkarte der AMD Radeon HD 8000/7000-Serie in APU der A-Serie - DirectX 11.1, Pixel Shader 5.0 mit FM2+-Prozessor. DirectX 11, Pixel Shader 5.0 mit FM2-Prozessor. - Maximal gemeinsam genutzter Speicher 2GB - Drei VGA-Ausgangsoptionen: D-Sub, DVI-D sowie HDMI - Unterstützt drei Monitore - Unterstützt HDMI mit einer maximalen Auflösung von 1920 x 1200 bei 60 Hz - Unterstützt Dual-link DVI-D mit einer maximalen Auflösung von 2560 x 1600 bei 60 Hz - Unterstützt D-Sub mit einer maximalen Auflösung von 1920 x 1200 bei 60 Hz - Unterstützt Auto Lip Sync, Deep Color (12bpc), xvYCC und HBR (High Bit Rate-Audio) mit HDMI (kompatibler HDMI-Bildschirm erforderlich)

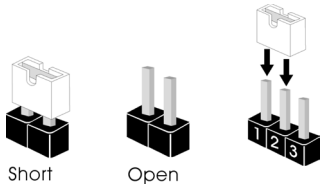
	- Unterstützt stereoskopisches 3D per Blu-ray mit HDMI - Unterstützt AMD Steady Video™ 2.0: Neuartige Funktion der Videonachbearbeitung für automatische Reduzierung von Bildschwankungen bei Heim-/Online-Videos - Unterstützt HDCP mit DVI-D- und HDMI-Ports - Unterstutzt 1080p Blu-ray (BD)-Wiedergabe mit DVI-D- und HDMI-Ports
Audio	- 7.1-Kanal-HD-Audio mit Inhaltsschutz (Realtek ALC892-Audiocodec) - Erstklassige Blu-ray-Audiounterstützung
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Unterstützt Qualcomm® Atheros® Security Wake On Internet-Technologie - Unterstützt Wake-On-LAN - Unterstützt energieeffizientes Ethernet 802.3az - Unterstützt PXE
E/A-Anschlüsse an der Rückseite	I/O Panel - 1 x PS/2-Maus/Tastaturanschluss - 1 x D-Sub port - 1 x DVI-D port - 1 x HDMI port - 1 x optischer SPDIF-Ausgang - 4 x Standard-USB 2.0-Anschlüsse - 2 x Standard-USB 3.0-Anschlüsse (AMD A88X (Bolton-D4)) - 1 x RJ-45 LAN Port mit LED (ACT/LINK LED und SPEED LED) - HD Audiobuchse: Lautsprecher hinten / Mitte/Bass / Audioeingang / Lautsprecher vorne / Mikrofon
Speicher	- 8 x SATA 3-Anschluss mit 6,0 Gb/s, unterstützt RAID- (RAID 0, RAID 1, RAID 5 und RAID 10), NCQ-, AHCI- und „Hot Plugging“-Funktionen
Anschlüsse	- 1 x Infrarot-Modul-Header - 1 x Druckerport-Anschlussleiste - 1 x COM-Anschluss-Header - 1 x Verteiler für Gehäuseeindringversuche - 1 x TPM-Stiftleiste - 1 x Betriebs-LED-Header - 2 x CPUlüfter-Anschluss (1 x 4-pin, 1 x 3-pin) - 1 x Gehäuselüfter-Anschluss (4-pin) - 1 x Stromlüfter-Anschluss (3-pin)

	- 1 x 24-pin ATX-Netz-Header - 1 x 8-pin anschluss für 12V-ATX-Netzteil - 1 x Anschluss für Audio auf der Gehäusevorderseite - 3 x USB 2.0-Anschlüsse (Unterstützung 6 zusätzlicher USB 2.0-Anschlüsse) - 1 x USB 3.0-Anschlüsse über AMD A88X (Bolton-D4) (Unterstützung 2 zusätzlicher USB 3.0-Anschlüsse)
BIOS	- 64-Mb-AMI-UEFI-Legal-BIOS mit Unterstützung mehrsprachiger grafischer Benutzerschnittstellen - Unterstützung für “Plug and Play” - ACPI 1.1-Weckfunktionen - JumperFree-Modus - SMBIOS 2.3.1 - DRAM und CPU Stromspannung Multianpassung
Support-CD	- Treiber, Dienstprogramme, Antivirussoftware (Probeversion), CyberLink MediaEspresso 6.5-Testversion, Google Chrome Browser und Toolbar, Start8 (30-Tage-Testversion)
Hardware Monitor	- CPU-Temperatursensor - Motherboardtemperaturerkennung - Drehzahlmessung für CPUlüfter - Drehzahlmessung für Gehäuselüfter - Geräuscharmer CPU/Gehäuselüfter - Mehrstufige Geschwindigkeitsteuerung für CPU-/ Gehäuselüfter - GEHÄUSE OFFEN-Erkennung - Spannungsüberwachung: +12V, +5V, +3.3V, Vcore
Betriebssysteme	- Unterstützt Microsoft® Windows® 8.1 32-Bit / 8.1 64-Bit / 8 32-Bit / 8 64-Bit / 7 32-Bit / 7 64-Bit
Zertifizierungen	- FCC, CE, WHQL - Gemäß Ökodesign-Richtlinie (ErP/EuP) (Stromversorgung gemäß Ökodesign-Richtlinie (ErP/EuP) erforderlich)

* Für die ausführliche Produktinformation, besuchen Sie bitte unsere Website: http://www.asrock.com

1.3 Einstellung der Jumper

Die Abbildung verdeutlicht, wie Jumper gesetzt werden. Werden Pins durch Jumperkappen verdeckt, ist der Jumper “Gebrückt”. Werden keine Pins durch Jumperkappen verdeckt, ist der Jumper “Offen”. Die Abbildung zeigt einen 3-Pin Jumper dessen Pin1 und Pin2 “Gebrückt” sind, bzw. es befindet sich eine Jumper-Kappe auf diesen beiden Pins.



Jumper	Einstellun	Beschreibung
CMOS löschen (CLRCMOS1, 3-Pin jumper) (siehe S.2, No. 9)	1_2 Default-Einstellung 2_3 CMOS löschen	

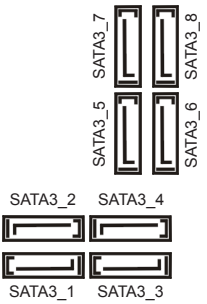
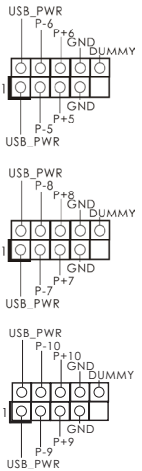
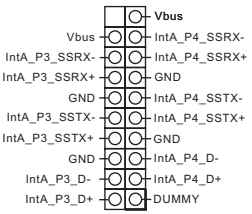
Hinweis: CLRCMOS1 ermöglicht Ihnen die Löschung der Daten im CMOS. Zum Löschen und Zurücksetzen der Systemparameter auf die Standardeinrichtung schalten Sie den Computer bitte aus und trennen das Netzkabel von der Stromversorgung. Warten Sie 15 Sekunden, schließen Sie dann Pin2 und Pin3 am CLRCMOS1 über einen Jumper fünf Sekunden lang kurz. Sie sollten das CMOS allerdings nicht direkt nach der BIOS-Aktualisierung löschen. Wenn Sie das CMOS nach Abschluss der BIOS-Aktualisierung löschen müssen, fahren Sie zuerst das System hoch. Fahren Sie es dann vor der CMOS-Löschung herunter. Bitte beachten Sie, dass Kennwort, Datum, Uhrzeit, benutzerdefiniertes Profil, 1394 GUID und MAC-Adresse nur gelöscht werden, wenn die CMOS-Batterie entfernt wird.

Durch Löschen des CMOS kann erkannt werden, wenn das Gehäuseoffen ist. Bitte stellen Sie zum Löschen der Aufzeichnung des vorherigenGehäuseindringungsstatus die BIOS-Option “Status leeren” ein.

Deutsch

1.4 Anschlüsse

Anschlussleisten sind KEINE Jumper. Setzen Sie KEINE Jumperkappen auf die Pins der Anschlussleisten. Wenn Sie die Jumperkappen auf die Anschlüsse setzen, wird das Motherboard permanent beschädigt!

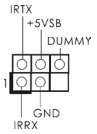
Anschluss	Beschreibung
Seriell-ATA3-Anschlüsse (SATA3_1: siehe S.2 - No. 16) (SATA3_2: siehe S.2 - No. 17) (SATA3_3: siehe S.2 - No. 15) (SATA3_4: siehe S.2 - No. 14) (SATA3_5: siehe S.2 - No. 13) (SATA3_6: siehe S.2 - No. 12) (SATA3_7: siehe S.2 - No. 10) (SATA3_8: siehe S.2 - No. 11)		Diese acht Serial ATA3-(SATA3-)Verbínder unterstützten SATA-Datenkabel für interne Massenspeichergeräte. Die aktuelle SATA3- Schnittstelle ermöglicht eine Datenübertragungsrate bis 6,0 Gb/s.
USB 2.0-Header (9-pol. USB_5_6) (siehe S.2 - No. 21) (9-pol. USB_7_8) (siehe S.2 - No. 22) (9-pol. USB_9_10) (siehe S.2 - No. 23)		Zusätzlich zu den vier üblichen USB 2.0-Ports an den I/O-Anschlüssen befinden sich drei USB 2.0-Anschlussleisten am Motherboard. Pro USB 2.0-Anschlussleiste werden zwei USB 2.0-Ports unterstützt.
USB 3.0-Header (19-pol. USB3_3_4) (siehe S.2 - No. 8)		Neben zwei Standard-USB 3.0-Ports am E/A-Panel befindet sich ein USB 3.0-Header an diesem Motherboard. Dieser USB 3.0-Header kann zwei USB 3.0-Ports unterstützen.

Deutsch

Infrarot-Modul-Header

(5-pin IR1)

(siehe S.2 - No. 27)

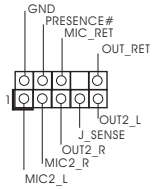


Dieser Header unterstützt ein optionales, drahtloses Sende- und Empfangs-Infrarotmodul.

Anschluss für Audio auf der Gehäusevorderseite

(9-Pin HD_AUDIO1)

(siehe S.2 - No. 28)



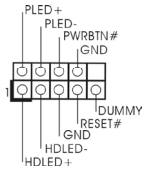
Dieses Interface zu einem Audio-Panel auf der Vorder seite Ihres Gehäuses, ermöglicht Ihnen eine bequeme Anschlussmöglichkeit und Kontrolle über Audio-Geräte.

1. High Definition Audio unterstützt Jack Sensing (automatische Erkennung falsch angeschlossener Geräte), wobei jedoch die Bildschirmverdrahtung am Gehäuse HDA unterstützen muss, um richtig zu funktionieren. Beachten Sie bei der Installation im System die Anweisungen in unserem Handbuch und im Gehäusehandbuch.
2. Wenn Sie die AC'97-Audioleiste verwenden, installieren Sie diese wie nachstehend beschrieben an der Front-Audioanschlussleiste:
   A. Schließen Sie Mic_IN (MIC) an MIC2_L an.
   B. Schließen Sie Audio_R (RIN) an OUT2_R und Audio_L (LIN) an OUT2_L an.
   C. Schließen Sie Ground (GND) an Ground (GND) an.
   D. MIC_RET und OUT_RET sind nur für den HD-Audioanschluss gedacht. Diese Anschlüsse müssen nicht an die AC'97-Audioleiste angeschlossen werden.
   E. So aktivieren Sie das Mikrofon an der Vorderseite.
   Bei den Betriebssystemen Windows® 8 / 8 64 Bit / 7 / 7 64 Bit:
   Wählen Sie im Realtek-Bedienfeld die „FrontMic" (Vorderes Mikrofon)-Registerkarte. Passen Sie die „Recording Volume" (Aufnahmelautstärke) an.

System Panel-Header

(9-pin PANEL1)

(siehe S.2 - No. 18)



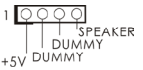
Dieser Header unterstützt mehrere Funktion der Systemvorderseite.

Schließen Sie die Ein-/Austaste, die Reset-Taste und die Systemstatusanzeige am Gehäuse an diesen Header an; befolgen Sie dabei die nachstehenden Hinweise zur Pinbelegung. Beachten Sie die positiven und negativen Pins, bevor Sie die Kabel anschließen.

Deutsch

PWRBTN (Ein-/Ausschalter):
Zum Anschließen des Ein-/Ausschalters an der Frontblende des Gehäu ses. Sie können konfigurieren, wie das System mit Hilfe des Ein-/Ausschalters ausgeschaltet werden können soll.
RESET (Reset-Taste):
Zum Anschließen der Reset-Taste an der Frontblende des Gehäuses. Mit der Reset-Taste können Sie den Computer im Falle eines Absturzes neu starten.
PLED (Systembetriebs-LED):
Zum Anschließen der Betriebsstatusanzeige an der Frontblende des Gehäuses. Die LED leuchtet, wenn das System in Betrieb ist. Die LED blinkt, wenn sich das System im Ruhezustand S1 befindet. Die LED schaltet sich aus, wenn sich das System in den Modi S3/S4 befindet oder ausgeschaltet ist (S5).
HDLED (Festplattenaktivitäts-LED):
Zum Anschließen der Festplattenaktivitäts-LED an der Frontblende des Gehäuses. Die LED leuchtet, wenn die Festplatte Daten liest oder schreibt.

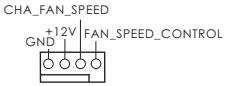
Das Design der Frontblende kann je nach Gehäuse variiere. Ein Frontblendenmodul besteht hauptsächlich aus einer Ein-/Austaste, einer Reset-Taste, einer Betriebs-LED, einer Festplattenaktivitäts-LED, Lautsprechern, etc. Stellen Sie beim Anschließen des Frontblendenmoduls Ihres Gehäuses an diesem Header sicher, dass die Kabel- und Pinbelegung korrekt übereinstimmen.

Gehäuselautsprecher-Header (4-pin SPEAKER1) (siehe S.2 - No. 20)		Schließen Sie den Gehäuselautsprecher an diesen Header an.
Betriebs-LED-Header (3-pin PLED1) (siehe S.2 - No. 19)		Bitte schließen Sie die Betriebs-LED des Gehäuses zur Anzeige des Systembetriebsstatus an diesem Header an. Die LED leuchtet, wenn das System in Betrieb ist. Die LED blinkt im S1-Zustand. Im S3-/S4- oder S5-Zustand (ausgeschaltet) leuchtet die LED nicht.

Gehäuse- und Stromlüfteranschlüsse

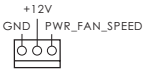
(4-pin CHA_FAN1)

(siehe S.2, No. 30)



(3-pin PWR_FAN1)

(siehe S.2 - No. 1)

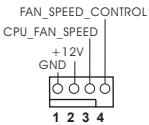


Verbinden Sie die Lüfterkabel mit den Lüfteranschlüssen, wobei der schwarze Draht an den Schutzleiterstift angeschlossenwird.

CPU-Lüfteranschluss

(4-pin CPU_FAN1)

(siehe S.2 - No. 3)



Verbinden Sie das CPU - Lüfterkabel mit diesem Anschluss und passen Sie den schwarzen Draht dem Erdungsstift an.

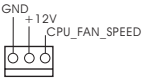
Obwohl dieses Motherboard einen vierpoligen CPU-Lüfteranschluss (Quiet Fan) bietet, können auch CPU-Lüfter mit dreipoligem Anschluss angeschlossen werden; auch ohne Geschwindigkeitsregulierung. Wenn Sie einen dreipoligen CPU-Lüfter an den CPU-Lüferanschluss dieses Motherboards anschließen möchten, verbinden Sie ihn bitte mit den Pins 1 – 3.

Pins 1–3 anschließen ←

Lüfter mit dreipoligem Anschluss installieren

(3-pin CPU_FAN2)

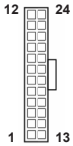
(siehe S.2 - No. 4)



ATX-Netz-Header

(24-pin ATXPWR1)

(siehe S.2 - No. 7)



Verbinden Sie die ATX-Stromversorgung mit diesem Header.

Obwohl dieses Motherboard einen 24-pol. ATX-Stromanschluss bietet, kann es auch mit einem modifizierten traditionellen 20-pol. ATX-Netzteil verwendet werden. Um ein 20-pol. ATX-Netzteil zu verwenden, stecken Sie den Stecker mit Pin 1 und Pin 13 ein.

Installation eines 20-pol. ATX-Netzteils

ATX 12V Anschluss

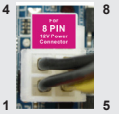
(8-pin ATX12V1)

(siehe S.2 - No. 2)

Bitte schließen Sie an diesen Anschluss die ATX 12V Stromversorgung an.

Deutsch

Obwohl diese Hauptplatine 8-Pin ATX 12V Stromanschluss zur Verfügung stellt, kann sie noch arbeiten, wenn Sie einen traditionellen 4-Pin ATX 12V Energieversorgung adoptieren. Um die 4-Pin ATX Energieversorgung zu verwenden, stecken Sie bitte Ihre Energieversorgung zusammen mit dem Pin 1 und Pin 5 ein.

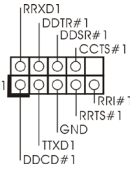


Installation der 4-Pin ATX 12V Energieversorgung

COM-Anschluss-Header

(9-pin COM1)

(siehe S.2 - No. 26)



Dieser COM-Anschluss-Header wird verwendet, um ein COM-Anschlussmodul zu unterstützen.

Verteiler für Gehäuseeindringversuche

(2-pin CI1)

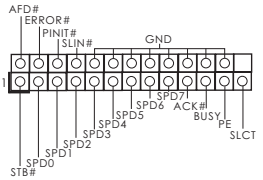
(siehe S.2 - No. 29)

Dieses Motherboard unterstützt die GEHÄUSE OFFEN-Erkennungsfunktion,die feststellt, ob dieGehäuseab-deckung entferntwurde. Für diese Funktion istein Ge-häuse erforderlich, dasmit ei-nem Design zur Erkennung von Gehäuseeindringver-suchenausgestattet ist.

Druckerport-Anschlussleiste

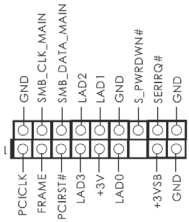
(25-pol. LPT1)

(siehe S.2 - No. 25)



Dies ist eine Schnittstelle zum Anschluss eines Druckerport-Kabels, mit dem Sie passende Drucker auf einfache Weise anschließen können.

TPM-Stiftleiste
(17-pol. TPMS1)
(siehe S.2 - No. 24)



Dieser Anschluss unterstützt das Trusted Platform Module- (TPM) System, das Schlüssel, digitale Zertifikate, Kennwörter und Daten sicher aufbewahren kann. Ein TPM-System hilft zudem bei der Stärkung der Netzwerksicherheit, schützt digitale Identitäten und gewährleistet die Plattformintegrität.

2. BIOS-Information

Das Flash Memory dieses Motherboards speichert das Setup-Utility. Drücken Sie <F2> oder <Del> während des POST (Power-On-Self-Test) um ins Setup zu gelangen, ansonsten werden die Testroutinen weiter abgearbeitet. Wenn Sie ins Setup gelangen wollen, nachdem der POST durchgeführt wurde, müssen Sie das System über die Tastenkombination <Ctrl> + <Alt> + <Delete> oder den Reset-Knopf auf der Gehäusevorderseite, neu starten. Natürlich können Sie einen Neustart auch durchführen, indem Sie das System kurz ab- und danach wieder anschalten.
Das Setup-Programm ist für eine bequeme Bedienung entwickelt worden. Es ist ein menügesteuertes Programm, in dem Sie durch unterschiedliche Untermenüs scrollen und die vorab festgelegten Optionen auswählen können. Für detaillierte Informationen zum BIOS-Setup, siehe bitte das Benutzerhandbuch (PDF Datei) auf der Support CD.

3. Software Support CD information

Dieses Motherboard unterstützt eine Reiche von Microsoft® Windows® Betriebssystemen: 8.1 32-Bit / 8.1 64-Bit / 8 32-Bit / 8 64-Bit / 7 32-Bit / 7 64-Bit. Die Ihrem Motherboard beigefügte Support-CD enthält hilfreiche Software, Treiber und Hilfsprogramme, mit denen Sie die Funktionen Ihres Motherboards verbessern können Legen Sie die Support-CD zunächst in Ihr CD-ROM-Laufwerk ein. Der Willkommensbildschirm mit den Installationsmenüs der CD wird automatisch aufgerufen, wenn Sie die “Autorun”-Funktion Ihres Systems aktiviert haben.
Erscheint der Wilkommensbildschirm nicht, so “doppelklicken” Sie bitte auf das File ASRSETUP.EXE im BIN-Verzeichnis der Support-CD, um die Menüs aufzurufen.
Das Setup-Programm soll es Ihnen so leicht wie möglich machen. Es ist menügesteuert, d.h. Sie können in den verschiedenen Untermenüs Ihre Auswahl treffen und die Programme werden dann automatisch installiert.

1. Introduction

Merci pour votre achat d'une carte mère ASRock ***FM2A88M Extreme4+***, une carte mère très fiable produite selon les critères de qualité rigoureux de ASRock. Elle offre des performances excellentes et une conception robuste conformément à l'engagement d'ASRock sur la qualité et la fiabilité au long terme.
Ce Guide d'installation rapide présente la carte mère et constitue un guide d'installation pas à pas. Des informations plus détaillées concernant la carte mère pourront être trouvées dans le manuel l'utilisateur qui se trouve sur le CD d'assistance.

Les spécifications de la carte mère et le BIOS ayant pu être mis à jour, le contenu de ce manuel est sujet à des changements sans notification. Au cas où n'importe qu'elle modification intervenait sur ce manuel, la version mise à jour serait disponible sur le site web ASRock sans nouvel avis. Vous trouverez les listes de prise en charge des cartes VGA et CPU également sur le site Web ASRock.
Site web ASRock, http://www.asrock.com
Si vous avez besoin de support technique en relation avec cette carte mère, veuillez consulter notre site Web pour de plus amples informations particulières au modèle que vous utilisez.
www.asrock.com/support/index.asp

1.1 Contenu du paquet

Carte mère ASRock ***FM2A88M Extreme4+*** (Facteur de forme Micro ATX)
Guide d'installation rapide ASRock ***FM2A88M Extreme4+***
CD de soutien ASRock ***FM2A88M Extreme4+***
Deux câbles de données de série ATA (SATA) (en option)
Un I/O Panel Shield

ASRock vous rappelle...
Pour bénéficier des meilleures performances sous Windows® 8 / 8 64 bits / 7 / 7 64 bits, il est recommandé de paramétrer l'option BIOS dans Configuration de stockage en mode AHCI. Pour plus de détails sur l'installation BIOS, référez-vous au "Mode d'emploi" sur votre CD de support.

1.2 Spécifications

Format	- Facteur de forme Micro ATX - Conception à condensateurs solides
A-Style	- Home Cloud
CPU	- Prend en charge les processeurs à socket FM2+ 95W / FM2 100W - Conception 4 + 2 Power Phase
Chipsets	- AMD A88X (Bolton-D4)
Mémoire	- Compatible avec la Technologie de Mémoire à Canal Double - 4 x slots DIMM DDR3 - Supporter DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066/800 non-ECC, sans amortissement mémoire * DDR3 2600+ est uniquement pris en charge avec deux DIMM. - Capacité maxi de mémoire système: 64GB - Prend en charge le profil de mémoire extrême Intel® (XMP) 1.3/1.2 - Prend en charge le profil de mémoire AMD (AMP)
Slot d'extension	- 1 x slot PCI Express 3.0 x16 (PCIE1 à mode x16) * PCIE 3.0 est uniquement pris en charge le processeur FM2+. Avec le processeur FM2, seul PCIE 2.0 est pris en charge. - 1 x slot PCI Express 2.0 x16 (PCIE3 à mode x4) - 1 x slot PCI Express 2.0 x1 - 1 x slot PCI - Support de AMD Quad CrossFireX™, CrossFireX™ et Dual Graphics
VGA sur carte	- APU AMD Radeon HD 8000/7000 série graphiques A-series - DirectX 11.1, Pixel Shader 5.0 avec processeur FM2+. DirectX 11, Pixel Shader 5.0 avec processeur FM2. - mémoire partagée max 2GB - Trois options de sortie VGA: D-Sub, DVI-D et HDMI - Prend en charge la configuration à triple moniteurs - Prend en charge le HDMI avec une résolution maximale jusqu'à 1920x1200 @ 60Hz - Prend en charge le Dual-link DVI-D avec une résolution maximale jusqu'à 2560x1600 @ 60Hz

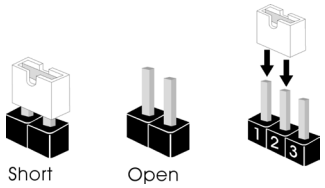
	- Prend en charge le D-Sub avec une résolution maximale jusqu'à 1920x1600 @ 60Hz - Prend en charge Lip Sync, Deep Color (12bpc), xvYCC et HBR (High Bit Rate Audio: Audio à haut débit binaire) avec HDMI (Moniteur compatible HDMI requis) - Prend en charge la 3D stéréoscopique Blu-ray avec HDMI - Supporte AMD Steady Video™ 2.0: Nouvelle fonctionnalité de traitement post-vidéo pour réduction automatique des tremblements dans les clips vidéo en ligne/maison - Prise en charge de la fonction HDCP avec ports DVI-D et HDMI - Supporter 1080p Blu-ray(BD) avec ports DVI-D et HDMI
Audio	- Audio 7.1 CH HD avec protection du contenu (codec audio Realtek ALC892) - Compatible audio Blu-ray Premium
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mo/s - Qualcomm® Atheros® AR8171 - Prend en charge la technologie Qualcomm® Atheros® Security Wake On sur Internet - Prend en charge la fonction Wake-On-LAN - Prend en charge la fonction d'économie d'énergie Ethernet 802.3az - Prend en charge PXE
Panneau arrière	I/O Panel - 1 x port souris/clavier PS/2 - 1 x port D-Sub - 1 x port DVI-D - 1 x port HDMI - 1 x Port de sortie optique SPDIF - 4 x ports USB 2.0 par défaut - 2 x ports USB 3.0 par défaut (AMD A88X (Bolton-D4)) - 1 x port LAN RJ-45 avec LED (ACT/LED CLIGNOTANTE et LED VITESSE) - Prise HD Audio: Haut-parleur arrière / Central /Basses / Entrée Ligne / Haut-parleur frontal / Microphone
Stockage	- 8 x connecteurs 6,0 Gb/s SATA3, prise en charge des fonctions RAID (RAID 0, RAID 1, RAID 5 et RAID 10), NCQ, AHCI et « Connexion à chaud »
Connecteurs	- 1 x En-tête du module infrarouge - 1 x embase de port d'impression - 1 x En-tête de port COM

	- 1 x Embase d'intrusion châssis - 1 x embase TPM - 1 x LED di accensione - 2 x Connecteur pour ventilateur de CPU (1 x br. 4, 1 x br. 3) - 1 x Connecteur pour ventilateur de Châssis (br. 4) - 1 x Connecteur pour ventilateur de pouvoir (br. 3) - 1 x br. 24 connecteur d'alimentation ATX - 1 x br. 8 connecteur d'alimentation 12V ATX - 1 x Connecteur audio panneau avant - 3 x En-tête USB 2.0 (prendre en charge 6 ports USB 2.0 supplémentaires) - 1 x En-tête USB 3.0 de AMD A88X (Bolton-D4) (prendre en charge 2 ports USB 3.0 supplémentaires)
BIOS	- BIOS UEFI AMI 64Mo légaux avec prise en charge interface graphique multilingue - Support du "Plug and Play" - Compatible pour événements de réveil ACPI 1.1 - Gestion jumperless - Support SMBIOS 2.3.1 - DRAM et CPU Tension Multi-ajustement
CD d'assistance	- Pilotes, utilitaires, logiciel anti-virus (Version d'essai), CyberLink MediaEspresso 6.5 Trial, Google Chrome Browser et Toolbar, Start8 (30 jours d'évaluation)
Surveillance système	- Détection de la température du processeur - Détection de la température du châssis - Tachéomètre du ventilateur processeur - Tachéomètre du ventilateur châssis - Fonction ventilateur silencieux processeur/châssis Quiet Fan - Contrôle simultané des vitesse du ventilateur processeur/châssis - Détection d'OUVERTURE DE BOÎTIER - Monitoring de la tension: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
Certifications	- FCC, CE, WHQL - Prêt pour ErP/EuP (alimentation Prêt pour ErP/EuP requise)

* Pour de plus amples informations sur les produits, s'il vous plaît visitez notre site web: http://www.asrock.com

1.3 Réglage des cavaliers

L'illustration explique le réglage des cavaliers. Quand un capuchon est placé sur les broches, le cavalier est « FERME ». Si aucun capuchon ne relie les broches,le cavalier est « OUVERT ». L'illustration montre un cavalier à 3 broches dont les broches 1 et 2 sont « FERMEES » quand le capuchon est placé sur ces 2 broches.



Le cavalier	Description	
Effacer la CMOS (CLRCMOS1) (voir p.2 fig. 9)	1_2 Paramètres par défaut	2_3 Effacer la CMOS

Remarque : CLRCMOS1 vous permet d'effacer les données du CMOS. Pour effacer et réinitialiser les paramètres du système à la configuration originale, veuillez éteindre l'ordinateur et débrancher le cordon d'alimentation de la prise de courant. Après 15 secondes, utilisez un couvercle de jumper pour court-circuiter les broches pin2 et pin3 de CLRCMOS1 pendant 5 secondes. Veuillez cependant ne pas effacer le CMOS immédiatement après avoir mis à jour le BIOS. Si vous avez besoin d'effacer le CMOS après avoir mis à jour le BIOS, vous devez allumer en premier le système, puis l'éteindre avant de continuer avec l'opération d'effacement du CMOS. Veuillez noter que le mot de passe, la date, l'heure, le profil par défaut de l'utilisateur, 1394 GUID et l'adresse MAC seront effacés seulement si la batterie du CMOS est enlevée.

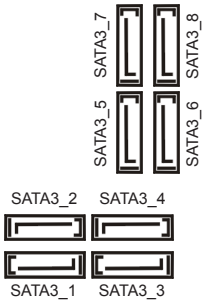
Si vous effacez la CMOS, il se peut qu'une ouverture du boîtier soitdétectée. Veuillez ajuster l'option du BIOS "Clear Status" (Effacerl'état) pour effacer la mention d'état d'intrusion dans le châssis.

1.4 En-têtes et Connecteurs sur Carte

Les en-têtes et connecteurs sur carte NE SONT PAS des cavaliers. NE PAS placer les capuchons de cavalier sur ces en-têtes et connecteurs. Le fait de placer les capuchons de cavalier sur les en-têtes et connecteurs causera à la carte mère des dommages irréversibles!

Connecteurs Série ATA3

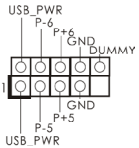
(SATA3_1: voir p.2 No. 16)
(SATA3_2: voir p.2 No. 17)
(SATA3_3: voir p.2 No. 15)
(SATA3_4: voir p.2 No. 14)
(SATA3_5: voir p.2 No. 13)
(SATA3_6: voir p.2 No. 12)
(SATA3_7: voir p.2 No. 10)
(SATA3_8: voir p.2 No. 11)



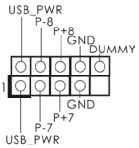
Ces huit connecteurs Série ATA3 (SATA3) prennent en charge les câbles SATA pour les périphériques de stockage internes. L'interface SATA3 actuelle permet des taux transferts de données pouvant aller jusqu'à 6,0 Gb/s.

En-tête USB 2.0

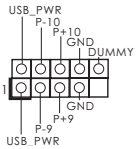
(USB_5_6 br.9)
(voir p.2 No. 21)



(USB_7_8 br.9)
(voir p.2 No. 22)



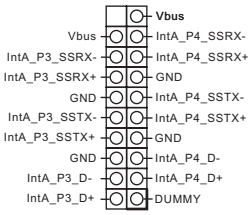
(USB_9_10 br.9)
(voir p.2 No. 23)



A côté des quatre ports USB 2.0 par défaut sur le panneau E/S, il y a trois embases USB 2.0 sur cette carte mère. Chaque embase USB 2.0 peut prendre en charge 2 ports USB 2.0.

En-tête USB 3.0

(USB3_3_4 br. 19)
(voir p.2 No. 8)



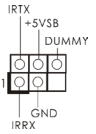
En plus des deux ports USB 3.0 par défaut sur le panneau E/S, il y a une barrette USB 3.0 sur la carte mère. Cette barrette USB 3.0 peut prendre en charge deux ports USB 3.0.

Français

En-tête du module infrarouge

(IR1 br.5)

(voir p.2 No. 27)

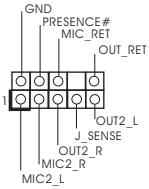


Cet en-tête supporte un module infrarouge optionnel de transfert et de réception sans fil.

Connecteur audio panneau

(HD_AUDIO1 br. 9)

(voir p.2 No. 28)



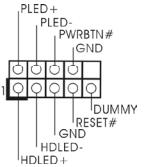
C'est une interface pour un câble avant audio en façade qui permet le branchement et le contrôle commodes de périphériques audio.

1. L'audio à haute définition (HDA) prend en charge la détection de fiche, mais le fil de panneau sur le châssis doit prendre en charge le HDA pour fonctionner correctement. Veuillez suivre les instructions dans notre manuel et le manuel de châssis afin installer votre système.
2. Si vous utilisez le panneau audio AC'97, installez-le sur l'adaptateur audio du panneau avant conformément à la procédure ci-dessous :
   A. Connectez Mic_IN (MIC) à MIC2_L.
   B. Connectez Audio_R (RIN) à OUT2_R et Audio_L (LIN) à OUT2_L.
   C. Connectez Ground (GND) à Ground (GND).
   D. MIC_RET et OUT_RET sont réservés au panneau audio HD. Vous n'avez pas besoin de les connecter pour le panneau audio AC'97.
   E. Pour activer le micro avant.
   Pour les systèmes d'exploitation Windows® 8 / 8 64 bits / 7 / 7 64 bits: Allez sur l'onglet "FrontMic" (Micro avant) sur le Panneau de contrôle Realtek. Ajustez "Recording Volume" (Volume d'enregistrement).

En-tête du panneau système

(PANEL1 br.9)

(voir p.2 No. 18)



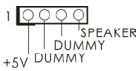
Cet en-tête permet d'utiliser plusieurs fonctions du panneau système frontal.

Connectez l'interrupteur d'alimentation, l'interrupteur de réinitialisation et l'indicateur d'état du système du châssis sur cette barrette en respectant l'affectation des broches décrite ci-dessous. Faites attention aux broches positives et négatives avant de connecter les câbles.

PWRBTN (Interrupteur d'alimentation):
Connectez ici le connecteur d'alimentation sur le panneau avant du châssis. Vous pouvez configurer la façon de mettre votre système hors tension avec l'interrupteur d'alimentation.
RESET (Interrupteur de réinitialisation):
Connectez ici le connecteur de réinitialisation sur le panneau avant du châssis. Appuyez sur l'interrupteur de réinitialisation pour redémarrer l'ordinateur s'il se bloque ou s'il n'arrive pas à redémarrer normalement.
PLED (DEL alimentation système):
Connectez ici l'indicateur d'état de l'alimentation sur le panneau avant du châssis. Ce voyant DEL est allumé lorsque le système est en marche. Le voyant DEL clignote lorsque le système est en mode veille S1. Le voyant DEL est éteint lorsque le système est en mode veille S3/S4 ou lorsqu'il est éteint (S5).
HDLED (DEL activité du disque dur):
Connectez ici le voyant DEL d'activité du disque dur sur le panneau avant du châssis. Ce voyant DEL est allumé lorsque le disque dur est en train de lire ou d'écrire des données.

Le design du panneau avant peut varier en fonction du châssis. Un module de panneau avant consiste principalement en : interrupteur d'alimentation, interrupteur de réinitialisation, voyant DEL d'alimentation, voyant DEL d'activité du disque dur, haut-parleur, etc. Lorsque vous connectez le panneau avant de votre châssis sur cette barrette, vérifiez bien à faire correspondre les fils et les broches.

En-tête du haut-parleur de châssis
(SPEAKER1 br. 4)
(voir p.2 No. 20)



Veuillez connecter le haut-parleur de châssis sur cet en-tête.

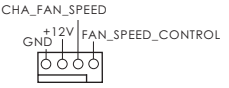
LED di accensione
(3-pin PLED1)
(vedi p.2 Nr. 19)

Collegare il LED di accensione chassi per indicare lo stato di alimentazione del sistema. Il LED è acceso quando il sistema è in funzione. Il LED continua a lampeggiare in stato S1. Il LED è spento in stato S3/S4 o S5 (spegnimento).

Connecteur pour châssis et ventilateur

(CHA_FAN1 br. 4)

(voir p.2 No. 30)



(PWR_FAN1 br. 3)

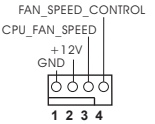
(voir p.2 No. 1)

Branchez les câbles du ventilateur aux connecteurs pour ventilateur et faites correspondre le fil noir à la broche de terre.

Connecteur du ventilateur de l'UC

(CPU_FAN1 br. 4)

(voir p.2 No. 3)



Veuillez connecter le câble de ventilateur d'UC sur ce connecteur et brancher le fil noir sur la broche de terre.

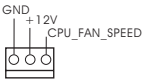
Bien que cette carte mère offre un support de (Ventilateur silencieux ventilateur de CPU à 4 broches , le ventilateur de CPU à 3 broches peut bien fonctionner même sans la fonction de commande de vitesse du ventilateur. Si vous prévoyez de connecter le ventilateur de CPU à 3 broches au connecteur du ventilateur de CPU sur cette carte mère, veuillez le connecter aux broches 1-3.

Installation de ventilateur à 3 broches

Broches 1-3 connectées

(CPU_FAN2 br. 3)

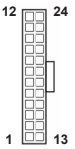
(voir p.2 No. 4)



En-tête d'alimentation ATX

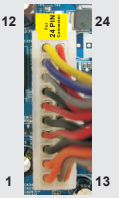
(ATXPWR1 br. 24)

(voir p.2 No. 7)



Veuillez connecter l'unité d'alimentation ATX sur cet en-tête.

Bien que cette carte mère fournisse un connecteur de courant ATX 24 broches, elle peut encore fonctionner si vous adopter une alimentation traditionnelle ATX 20 broches. Pour utiliser une alimentation ATX 20 broches, branchez à l'alimentation électrique ainsi qu'aux broches 1 et 13.



20-Installation de l'alimentation électrique ATX

Français

Connecteur ATX 12V

(ATX12V1 br.8)

(voir p.2 No. 2)

Veuillez connecter une unité d'alimentation électrique ATX 12V sur ce connecteur.

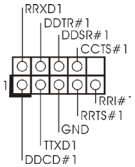
Bien que cette carte mère possède 8 broches connecteur d'alimentation ATX 12V, il peut toujours travailler si vous adoptez une approche traditionnelle à 4 broches ATX 12V alimentation. Pour utiliser l'alimentation des 4 broches ATX, branchez votre alimentation avec la broche 1 et la broche 5.

4-Installation d'alimentation à 4 broches ATX 12V

En-tête de port COM

(COM1 br.9)

(voir p.2 No. 26)



Cette en-tête de port COM est utilisée pour prendre en charge un module de port COM.

Embase d'intrusion châssis

(CI1 br.2)

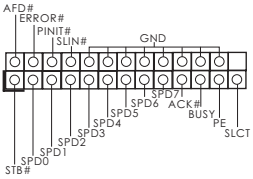
(voir p.2 No. 29)

Cette carte-mère prend en charge la détection d'OUVERTURE DE BOÎTIER, quidétecte tout retrait du capot duchâssis. Cette fonction-nécessite un châssis qui a été-conçu pour la détectiond'intrusion dans le châssis.

Embase de port d'impression

(LPT1 25 broches)

(voir p.2 No. 25)



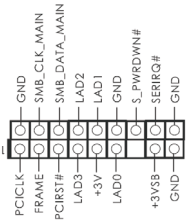
All s'agit d'une interface pour le câble du port d'impression, qui permet le raccordement pratique de périphériques d'impression.

Français

Embase TPM

(TPMS1 17 broches)

(voir p.2 No. 24)



Ce connecteur prend en charge un module TPM (Trusted Platform Module – Module de plateforme sécurisée), qui permet de sauvegarder clés, certificats numériques, mots de passe et données en toute sécurité. Le système TPM permet également de renforcer la sécurité du réseau, de protéger les identités numériques et de préserver l'intégrité de la plateforme.

2. Informations sur le BIOS

La puce Flash Memory sur la carte mère stocke le Setup du BIOS. Lorsque vous démarrez l'ordinateur, veuillez presser <F2> ou <Del> pendant le POST (Power-On-Self-Test) pour entrer dans le BIOS; sinon, le POST continue ses tests de routine. Si vous désirez entrer dans le BIOS après le POST, veuillez redémarrer le système en pressant <Ctl> + <Alt> + <Suppr>, ou en pressant le bouton de reset sur le boîtier du système. Vous pouvez également redémarrer en éteignant le système et en le rallumant. L'utilitaire d'installation du BIOS est conçu pour être convivial. C'est un programme piloté par menu, qui vous permet de faire défiler par ses divers sous-menus et de choisir parmi les choix prédéterminés. Pour des informations détaillées sur le BIOS, veuillez consulter le Guide de l'utilisateur (fichier PDF) dans le CD technique.

3. Informations sur le CD de support

Cette carte mère supporte divers systèmes d'exploitation Microsoft® Windows®: 8.1 32 bits / 8.1 64 bits / 8 32 bits / 8 64 bits / 7 32 bits / 7 64 bits. Le CD technique livré avec cette carte mère contient les pilotes et les utilitaires nécessaires pour améliorer les fonctions de la carte mère. Pour utiliser le CD technique, insérez-le dans le lecteur de CD-ROM. Le Menu principal s'affiche automatiquement si "AUTORUN" est activé dans votre ordinateur. Si le Menu principal n'apparaît pas automatiquement, localisez dans le CD technique le fichier "ASRSETUP.EXE" dans le dossier BIN et double-cliquez dessus pour afficher les menus.

1. Introduzione

Grazie per aver scelto una scheda madre ASRock ***FM2A88M Extreme4+***, una scheda madre affidabile prodotta secondo i severi criteri di qualità ASRock. Le prestazioni eccellenti e il design robusto si conformano all'impegno di ASRock nella ricerca della qualità e della resistenza.

Questa Guida Rapida all'Installazione contiene l'introduzione alla motherboard e la guida passo-passo all'installazione. Informazioni più dettagliate sulla motherboard si possono trovare nel manuale per l'utente presente nel CD di supporto.

Le specifiche della scheda madre e il software del BIOS possono essere aggiornati, pertanto il contenuto di questo manuale può subire variazioni senza preavviso. Nel caso in cui questo manuale sia modificato, la versione aggiornata sarà disponibile sul sito di ASRock senza altro avviso. Sul sito ASRock si possono anche trovare le più recenti schede VGA e gli elenchi di CPU supportate.
ASRock website http://www.asrock.com
Se si necessita dell'assistenza tecnica per questa scheda madre, visitare il nostro sito per informazioni specifiche sul modello che si sta usando.
www.asrock.com/support/index.asp

1.1 Contenuto della confezione

Scheda madre ASRock ***FM2A88M Extreme4+*** (Micro ATX Form Factor)
Guida di installazione rapida ASRock ***FM2A88M Extreme4+***
CD di supporto ASRock ***FM2A88M Extreme4+***
Due cavi dati Serial ATA (SATA) (opzionali)
Un I/O Shield

ASRock vi ricorda...
Per ottenere migliori prestazioni in Windows® 8 / 8 64-bit / 7 / 7 64-bit, si consiglia di impostare l'opzione BIOS in Storage Configuration (Configurazione di archiviazione) sulla modalità AHCI. Per l'impostazione BIOS, fare riferimento a "User Manual" (Manuale dell'utente) nel CD di supporto per dettagli.

1.2 Specifiche

Piattaforma	- Micro ATX Form Factor - Design di condensatore solido
Stile superiore	- Home Cloud
Processore	- Supporto per processori socket FM2+ 95W / FM2 100W - Struttura di fase con alimentazione 4 + 2
Chipset	- AMD A88X (Bolton-D4)
Memoria	- Supporto tecnologia Dual Channel Memory - 4 x slot DDR3 DIMM - Supporto DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066/800 non-ECC, momoria senza buffer * DDR3 2600+ è supportato solo con due DIMM. - Capacità massima della memoria di sistema: 64GB - Supporto di Intel® XMP (Extreme Memory Profile)1.3/1.2 - Supporto di AMD AMP (AMD Memory Profile)
Slot di espansione	- 1 x slot PCI Express 3.0 x16 (PCIE1: modalità x16) * PCIE 3.0 è supportato solo con CPU FM2+. Con CPU FM2, supporta solo PCIE 2.0. - 1 x slot PCI Express 2.0 x16 (PCIE3: modalità x4) - 1 x slot PCI Express 2.0 x1 - 1 x slot PCI - Supporta AMD Quad CrossFireX™, CrossFireX™ e Dual Graphics
VGA su scheda	- Grafica serie AMD Radeon HD 8000/7000 integrata in APU serie A - DirectX 11.1, Pixel Shader 5.0 con CPU FM2+. DirectX 11, Pixel Shader 5.0 con CPU FM2. - Memoria massima condivisa 2GB - Tre opzioni d'output VGA: D-Sub, DVI-D e HDMI - Supporta il triplo monitor - Supporta HDMI 1.4a con risoluzione massima fino a 1920x1200 @ 60Hz - Supporta Dual-link DVI-D con risoluzione massima fino a 2560x1600 @ 60Hz - Supporta D-Sub con risoluzione massima fino a 1920x1200 @ 60Hz - Supporto delle funzioni Auto Lip Sync, Deep Color (12bpc), xvYCC e HBR (High Bit Rate Audio) con HDMI

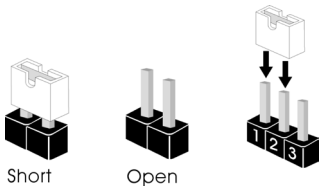
	(è necessario un monitor compatibile HDMI) - Supporta Blu-ray Stereoscopico in 3D con HDMI - Supporta AMD Steady Video™ 2.0: Nuova capacità di post-elab orazione video per la riduzione automatica delle vibrazioni nei video a casa/on-line - Supporto della funzione HDCP con le porte DVI-D e HDMI - Supporto 1080p Blu-ray (BD) riproduzione con le porte DVI-D e HDMI
Audio	- Audio HD a 7.1 canali con Content Protection (codec audio Realtek ALC892) - Supporto audio Blu-ray Premium
LAN	- PCIE x 1 LAN Gigabit 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Supporta la tecnologia Qualcomm® Atheros® Security Wake On Internet - Supporta Wake-On-LAN - Supporta Energy Efficient Ethernet 802.3az - Supporta PXE
Pannello posteriore I/O	I/O Panel - 1 x porta PS/2 per mouse/tastiera - 1 x Porta D-Sub - 1 x Porta DVI-D - 1 x Porta HDMI - 1 x Porta ottica SPDIF Out - 4 x porte USB 2.0 già integrate - 2 x porte USB 3.0 già integrate (AMD A88X (Bolton-D4)) - 1 x porte LAN RJ-45 con LED (LED azione/collegamento e LED velocità) - Connettore HD Audio: cassa posteriore / cassa centrale / bassi / ingresso linea / cassa frontale / microfono
Archiviazione	- 8 x connettori SATA3 6,0 Gb/s, supporto di RAID (RAID 0, RAID 1, RAID 5 e RAID 10) e delle funzioni NCQ, AHCI e “Hot Plug”
Connettori	- 1 x Collettore modulo infrarossi - 1 x Collettore porta stampante - 1 x collettore porta COM - 1 x header di intrusione dello chassis - 1 x header TPM - 1 x LED di accensione - 2 x Connettore CPU ventola (1 x 4-pin, 1 x 3-pin) - 1 x Connettore Chassis ventola (4-pin)

	- 1 x Connettore Alimentazione ventola (3-pin) - 1 x 24-pin collettore alimentazione ATX - 1 x 8-pin connettore ATX 12V - 1 x Connettore audio sul pannello frontale - 3 x Collettore USB 2.0 (supporta 6 porte USB 2.0) - 1 x Collettore USB 3.0 di AMD A88X (Bolton-D4) (supporta 2 porte USB 3.0)
BIOS	- BIOS legale 64Mb AMI UEFI con supporto GUI multilingue - Supporta “Plug and Play” - Compatibile con ACPI 1.1 wake up events - Supporta jumperfree - Supporta SMBIOS 2.3.1 - Regolazione multi-voltaggio DRAM e CPU
CD di supporto	- Driver, utilità, software antivirus (Versione dimostrativa), CyberLink MediaEspresso 6.5 Trial, Google Chrome Browser e Toolbar, Start8 (30 giorni di prova)
Monitoraggio Hardware	- Sensore per la temperatura del processore - Sensore temperatura scheda madre - Indicatore di velocita per la ventola del CPU - Indicatore di velocita per la ventola del Chassis - Ventola CPU/chassis silenziosa - Ventola CPU/chassis con controllo di varie velocità - Rilevamento CASE APERTO - Voltaggio: +12V, +5V, +3.3V, Vcore
Compatibilità SO	- Microsoft® Windows® 8.1 32 bit / 8.1 64 bit / 8 32 bit / 8 64 bit / 7 32 bit / 7 64 bit
Certificazioni	- FCC, CE, WHQL - Predisposto ErP/EuP (è necessaria l’alimentazione predis posta per il sistema ErP/EuP)

* Per ulteriori informazioni, prego visitare il nostro sito internet: http://www.asrock.com

1.3 Setup dei Jumpers

L'illustrazione mostra come sono settati i jumper. Quando il ponticello è posizionato sui pin, il jumper è "CORTOCIRCUITATO". Se sui pin non ci sono ponticelli, il jumper è "APERTO". L'illustrazione mostra un jumper a 3 pin in cui il pin1 e il pin2 sono "CORTOCIRCUITATI" quando il ponticello è posizionato su questi pin.



Jumper	Setaggio del Jumper
Resettare la CMOS (CLRCMOS1) (vedi p.2 item 9)	1_2 Impostazione predefinita 2_3 Azzeramento CMOS

Nota: CLRCMOS1 permette si azzerare i dati nella CMOS. Per cancellare e ripristinare i parametri del sistema sulla configurazione iniziale, spegnere il computer e scollegare il cavo d'alimentazione dalla presa di corrente. Attendere 15 secondi, poi usare un cappuccio jumper per cortocircuitare il pin 2 ed il pin 3 su CLRCMOS1 per 5 secondi. Tuttavia, si consiglia di non cancellare la CMOS subito dopo avere aggiornato il BIOS. Se si deve azzerare la CMOS quando si è completato l'aggiornamento del BIOS, è necessario per prima cosa avviare il sistema e poi spegnerlo prima di eseguire l'azzeramento della CMOS. Notare che password, data, ore, profilo utente predefinito, 1394 GUID e indirizzo MAC saranno cancellati solo se è rimossa la batteria della CMOS.

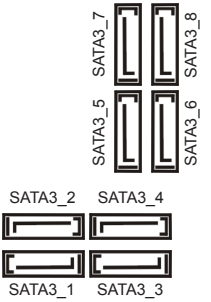
Se si cancella la CMOS, potrebbe essere rilevata l'apertura del case. Regolare l'opzione del BIOS "Clear Status" (Cancella stato) per cancellarela registrazione del precedente stato d'intrusione chassis.

1.4 Collettori e Connettori su Scheda

I collettori ed i connettori su scheda NON sono dei jumper. NON installare cappucci per jumper su questi collettori e connettori. L'installazione di cappucci per jumper su questi collettori e connettori provocherà danni permanenti alla scheda madre!

Connettori Serial ATA3

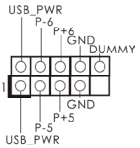
(SATA3_1: vedi p.2 Nr. 16)
(SATA3_2: vedi p.2 Nr. 17)
(SATA3_3: vedi p.2 Nr. 15)
(SATA3_4: vedi p.2 Nr. 14)
(SATA3_5: vedi p.2 Nr. 13)
(SATA3_6: vedi p.2 Nr. 12)
(SATA3_7: vedi p.2 Nr. 10)
(SATA3_8: vedi p.2 Nr. 11)



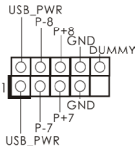
Questi otto connettori Serial ATA3 (SATA3) supportano cavi dati SATA per dispositivi di immagazzinamento interni. ATA3 (SATA3) supportano cavi SATA per dispositivi di memoria interni. L'interfaccia SATA3 attuale permette velocità di trasferimento dati fino a 6.0 Gb/s.

Collettore USB 2.0

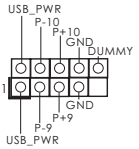
(9-pin USB_5_6)
(vedi p.2 Nr. 21)



(9-pin USB_7_8)
(vedi p.2 Nr. 22)



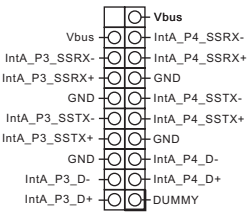
(9-pin USB_9_10)
(vedi p.2 Nr. 23)



Oltre alle quattro porte USB 2.0 predefinite nel pannello I/O, la scheda madre dispone di tre intestazioni USB 2.0. Ciascuna intestazione USB 2.0 supporta due porte USB 2.0.

Collettore USB 3.0

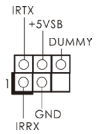
(19-pin USB3_3_4)
(vedi p.2 Nr. 8)



Oltre alle due porte USB 3.0 standard del pannello I/O, questa scheda madre è dotata di un header USB 3.0 che supporta due porte USB 3.0.

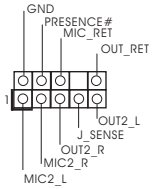
Italiano

Collettore modulo infrarossi
(5-pin IR1)
(vedi p.2 Nr. 27)



Questo collettore supporta moduli ad infrarossi optional per la trasmissione e la ricezione senza fili.

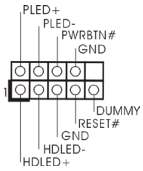
Connettore audio sul pannello frontale
(9-pin HD_AUDIO1)
(vedi p.2 Nr. 28)



È un'interfaccia per il cavo del pannello audio. Che consente connessione facile e controllo dei dispositivi audio.

1. La caratteristica HDA (High Definition Audio) supporta il rilevamento dei connettori, però il pannello dei cavi sul telaio deve supportare la funzione HDA (High Definition Audio) per far sì che questa operi in modo corretto. Attenersi alle istruzioni del nostro manuale e del manuale del telaio per installare il sistema.
2. Se si utilizza un pannello audio AC'97, installarlo nell'intestazione audio del pannello anteriore, come indicato di seguito:
   A. Collegare Mic_IN (MIC) a MIC2_L.
   B. Collegare Audio_R (RIN) a OUT2_R e Audio_L (LIN) ad OUT2_L.
   C. Collegare Ground (GND) a Ground (GND).
   D. MIC_RET e OUT_RET sono solo per il pannello audio HD. Non è necessario collegarli per il pannello audio AC'97.
   E. Per attivare il microfono frontale.
      Sistema operativo Windows® 8 / 8 64-bit / 7 / 7 64-bit:
      Andare alla scheda "FrontMic" (Microfono frontale) del pannello di controllo Realtek. Regolare la voce "Recording Volume" (Volume registrazione).

Collettore pannello di sistema
(9-pin PANEL1)
(vedi p.2 Nr. 18)



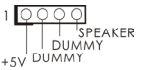
Questo collettore accomoda diverse funzioni di sistema pannello frontale.

Collegare l'interruttore d'alimentazione, l'interruttore di ripristino, l'indicatore di stato del sistema del pannello frontale del telaio a questo header in base all'assegnazione dei pin definita di seguito. Determinare i pin positivi e negativi prima di collegare i cavi.

PWRBTN (interruttore d'alimentazione):
Va collegato all'interruttore d'alimentazione del pannello frontale del telaio. Usando l'interruttore d'alimentazione si può configurare il modo in cui si spegne il sistema.
RESET (interruttore di ripristino):
Va collegato all'interruttore di ripristino del pannello frontale del telaio. Premere l'interruttore di ripristino per riavviare il sistema se il computer si blocca e non riesce ad eseguire un normale riavvio.
PLED (LED alimentazione del sistema):
Va collegato all'indicatore di stato d'alimentazione del pannello frontale del telaio. Il LED è acceso quando il sistema è operativo. Il LED continua a lampeggiare quando il sistema è in stato di standby S1. Il LED è spento quando il sistema è in stato di sospensione /ibernazione S3/S4 oppure spento (S5).
HDLED (LED attività disco rigido):
Va collegato al LED attività disco rigido del pannello frontale del telaio. Il LED è acceso quando disco rigido legge e scrive i dati.

Il design del pannello frontale può variare in base ai telai. Il modulo di un pannello frontale può consistere di: interruttore d'alimentazione, interruttore di ripristino, LED d'alimentazione, LED attività disco rigido, casse, eccetera. Quando si collega il modulo del pannello frontale a questo header, assicurarsi che l'assegnazione dei fili e dei pin sia fatta corrispondere in modo appropriato.

Collettore casse telaio
(4-pin SPEAKER1)
(vedi p.2 Nr. 20)

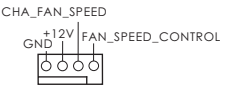


Collegare le casse del telaio a questo collettore.

LED di accensione
(3-pin PLED1)
(vedi p.2 Nr. 19)

Collegare il LED di accensione chassi per indicare lo stato di alimentazione del sistema. Il LED è acceso quando il sistema è in funzione. Il LED continua a lampeggiare in stato S1. Il LED è spento in stato S3/S4 o S5 (spegnimento).

Collettori Chassis ed alimentazione ventola
(4-pin CHA_FAN1)
(vedi p.2 Nr. 30)



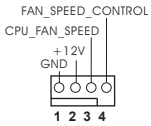
(3-pin PWR_FAN1)
(vedi p.2 Nr. 1)

Collegare i cavi della ventola ai corrispondenti connettori facendo combaciare il cavo nero col pin di terra.

Connettore ventolina CPU

(4-pin CPU_FAN1)

(vedi p.2 Nr. 3)



Collegare il cavo della ventolina CPU a questo connettore e far combaciare il filo nero al pin terra.

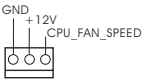
Sebbene la presente scheda madre disponga di un supporto per ventola CPU a 4 piedini (ventola silenziosa), la ventola CPU a 3 piedini è in grado di funzionare anche senza la funzione di controllo della velocità della ventola. Se si intende collegare la ventola CPU a 3 piedini al connettore della ventola CPU su questa scheda madre, collegarla ai piedini 1-3.

Piedini 1-3 collegati

Installazione della ventola a 3 piedini

(3-pin CPU_FAN2)

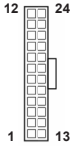
(vedi p.2 Nr. 4)



Connettore alimentazione ATX

(24-pin ATXPWR1)

(vedi p.2 Nr. 7)



Collegare la sorgente d'alimentazione ATX a questo connettore.

Con questa scheda madre, c'è in dotazione un connettore elettrico ATX a 24 pin, ma può funzionare lo stesso se si adotta un alimentatore ATX a 20 pin. Per usare l'alimentatore ATX a 20 pin, collegare l'alimentatore con il Pin 1 e il Pin 13.

Installazione dell'alimentatore ATX a 20 pin

Connettore ATX 12 V

(8-pin ATX12V1)

(vedi p.2 Nr. 2)

Collegare un alimentatore ATX 12 V a questo connettore.

Sebbene questa schedamadre fornisca un connettore elettrico 8-pin ATX 12V, l'unita' puo' ancora essere funzionante se viene utilizzata una fornitura elettrica tradizionale a 4-pin ATX 12V. Per usare tale fornitura elettrica 4-pin ATX 12V, prego collegare la presa elettrica al Pin 1 e Pin 5.

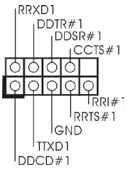
Installazione elettrica 4-Pin ATX 12V

Italiano

Collettore porta COM

(9-pin COM1)

(vedi p.2 Nr. 26)



Questo collettore porta COM è utilizzato per supportare il modulo porta COM.

Header di intrusione dello chassis

(2-pin CI1)

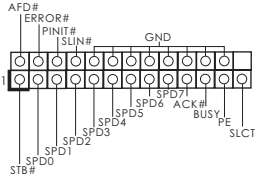
(vedi p.2 Nr. 29)

Questa scheda madre supporta la funzione di rilevamento del CASE APERTOche rileva che il coperchio dellochassis è stato rimosso.Questa funzione richiede unochassis con struttura dirilevamento di intrusione dellochassis.

Collettore porta stampante

(LPT1 25 pin)

(vedi p.2 No. 25)

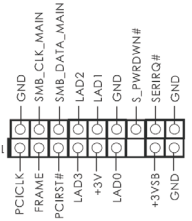


Questa è un'interfaccia per il cavo porta stampante che consente di collegare, con comodità, dispositivi di stampa.

Header TPM

(TPMS1 17 pin)

(vedi p.2 No. 24)



Questo connettore supporta il sistema Trusted Platform Module (TPM), che può archiviare in modo sicuro chiavi, certificati digitali, password e dati. Un sistema TPM permette anche di potenziare la sicurezza della rete, di proteggere identità digitali e di garantire l'integrità della piattaforma.

2. Informazioni sul BIOS

La Flash Memory sulla scheda madre contiene le Setup Utility. Quando si avvia il computer, premi <F2> o <Del> durante il Power-On-Self-Test (POST) della Setup utility del BIOS; altrimenti, POST continua con i suoi test di routine. Per entrare il BIOS Setup dopo il POST, riavvia il sistema premendo <Ctl> + <Alt> + <Delete>, o premi il tasto di reset sullo chassis del sistema. Per informazioni più dettagliate circa il Setup del BIOS, fare riferimento al Manuale dell'Utente (PDF file) contenuto nel cd di supporto.

3. Software di supporto e informazioni su CD

Questa scheda madre supporta vari sistemi operativi Microsoft® Windows®: 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit. Il CD di supporto a corredo della scheda madre contiene i driver e utilità necessari a potenziare le caratteristiche della scheda. Inserire il CD di supporto nel lettore CD-ROM. Se la funzione "AUTORUN" è attivata nel computer, apparirà automaticamente il Menù principale. Se il Menù principale non appare automaticamente, posizionarsi sul file "ASRSETUP.EXE" nel CESTINO del CD di supporto e cliccare due volte per visualizzare i menù.

1. Introducción

Gracias por su compra de ASRock ***FM2A88M Extreme4+*** placa madre, una placa de confianza producida bajo el control de calidad estricto y persistente. La placa madre provee realización excelente con un diseño robusto conforme al compromiso de calidad y resistencia de ASRock.

Esta Guía rápida de instalación contiene una introducción a la placa base y una guía de instalación paso a paso. Puede encontrar una información más detallada sobre la placa base en el manual de usuario incluido en el CD de soporte.

Porque las especificaciones de la placa madre y el software de BIOS podrían ser actualizados, el contenido de este manual puede ser cambiado sin aviso. En caso de cualquier modificación de este manual, la versión actualizada estará disponible en el website de ASRock sin previo aviso. También encontrará las listas de las últimas tarjetas VGA y CPU soportadas en la página web de ASRock.

Website de ASRock http://www.asrock.com

Si necesita asistencia técnica en relación con esta placa base, visite nuestra página web con el número de modelo específico de su placa.

www.asrock.com/support/index.asp

1.1 Contenido de la caja

Placa base ASRock ***FM2A88M Extreme4+*** (Factor forma Micro ATX)

Guía de instalación rápida de ASRock ***FM2A88M Extreme4+***

CD de soporte de ASRock ***FM2A88M Extreme4+***

Dos cables de datos Serial ATA (SATA) (Opcional)

Una protección I/O

ASRock le recuerda...

Para mejorar el rendimiento en Windows® 8 / 8 64 bits / 7 / 7 64 bits, es recomendable establecer la opción del BIOS de la configuración de almacenamiento en el modo AHCI. Para obtener detalles sobre la configuración del BIOS, consulte el “Manual del usuario” que se encuentra en nuestro CD de soporte.

Español

1.2 Especificación

Plataforma	- Factor forma Micro ATX - Diseño de los Condensadores: All Solid
A-Style	- Home Cloud
Procesador	- Admite zócalos de procesadores FM2+ 95W / FM2 100W - Diseño de fases de potencia 4 + 2
Chipset	- AMD A88X (Bolton-D4)
Memoria	- Soporte de Tecnología de Memoria de Doble Canal - 4 x DDR3 DIMM slots - Apoya DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/ 1333/1066/800 non-ECC, memoria de un-buffered * Solo se admite DDR3 2600+ en dos DIMMs. - Máxima capacidad de la memoria del sistema: 64GB - Compatible con Intel® Extreme Memory Profile (XMP)1.3/1.2 - Compatible con AMD Memory Profile (AMP)
Ranuras de Expansión	- 1 x ranura PCI Express 3.0 x16 (PCIE1: modo x16) * Solo se admite PCIE 3.0 con FM2+ CPU. Con FM2 CPU, solo se admite PCIE 2.0. - 1 x ranura PCI Express 2.0 x16 (PCIE3: modo x4) - 1 x ranura PCI Express 2.0 x1 - 1 x ranura PCI - Admite CrossFireX™ cuádruple de AMD, CrossFireX™ y tarjeta gráfica dual
VGA OnBoard	- Gráficos integrados de serie 8000/7000, HD AMD Radeon con APU de serie A - DirectX 11.1, Sombreador de píxeles 5.0 con FM2+ CPU. DirectX 11, Sombreador de píxeles 5.0 con FM2 CPU. - 2GB de Memoria máxima compartida - Tres opciones de salida VGA: D-Sub, DVI-D y HDMI - Compatible con monitores triples - Admite HDMI con una resolución máxima de 1920x1200 a 60 Hz - Admite Dual-link DVI-D con una resolución máxima de 2560x1600 a 60 Hz - Admite D-Sub con una resolución máxima de 1920x1200 a 60 Hz - Admite Sincronización automática entre audio y vídeo, Deep Color (12 bpc), xvYCC y HBR (audio de alta tasa de bits) con HDMI (se necesita un monitor compatible con HDMI)

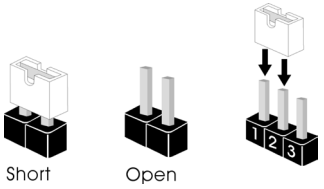
	- Admite la función 3D estereoscópica Blu-ray con HDMI - Admite AMD Steady Video™ 2.0: Nueva capacidad de pospro cesamiento de vídeo para reducción automática de oscila ciones en vídeo doméstico y en línea - Admite la función HDCP con puertos DVI-D y HDMI - Apoya la reproducción de Blu-rayo de 1080p (BD) con puertos DVI-D y HDMI
Audio	- 7.1 Audio CH HD con Protección de contenido (Realtek ALC892 Audio Codec) - Compatible con audio Blu-ray Premium
LAN	- LAN Gigabit PCIE x1 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Compatible con la Tecnología de seguridad en internet Wake On Qualcomm® Atheros® - Compatible con Wake-On-LAN - Compatible con Ethernet de consumo eficiente de energía 802.3az - Compatible con PXE
Entrada/Salida de Panel Trasero	I/O Panel - 1 x puerto de ratón/teclado PS/2 - 1 x Puerto D-Sub - 1 x Puerto DVI-D - 1 x Puerto HDMI - 1 x puerto de salida óptica SPDIF - 4 x puertos USB 2.0 predeterminados - 2 x puertos USB 3.0 predeterminados (AMD A88X (Bolton-D4)) - 1 x Puerto LAN RJ-45 con LED (LED de ACCIÓN/ ENLACE y LED de VELOCIDAD) - Conexión de audio: Altavoz trasero / Central/Bajos / Entrada de línea / Altavoz frontal / Micrófono
Almacenamiento	- 8 x conectores SATA3 de 6,0 Gb/s compatibles con funciones RAID (RAID 0, RAID 1, RAID 5 y RAID 10), NCQ, AHCI y de “conexión en caliente” compatibles con funciones NCQ, AHCI y de “conexión en caliente”
Conectores	- 1 x Cabezal de Módulo Infrarrojos - 1 x cabecera de puerto de impresora - 1 x En-tête de port COM - 1 x Conector de detección de intrusión en el chasis - 1 x cabezal TPM - 1 x cabecera de indicador LED de encendido

	- 2 x Conector de ventilador de CPU (1 x 4-pin, 1 x 3-pin) - 1 x Conector de ventilador de chasis (4-pin) - 1 x Conector de ventilador de alimentacion (3-pin) - 1 x 24-pin cabezal de alimentación ATX - 1 x 8-pin conector de ATX 12V power - 1 x Conector de audio de panel frontal - 3 x Cabezal USB 2.0 (admite 6 puertos USB 2.0 adicionales) - 1 x Cabezal USB 3.0 de AMD A88X (Bolton-D4)(admite 2 puertos USB 3.0 adicionales)
BIOS	- BIOS Legal UEFI AMI de 64Mb compatibles con interfaz gráfica de usuario multilingüe - Soporta “Plug and Play” - ACPI 1.1 compliance wake up events - Soporta “jumper free setup” - Soporta SMBIOS 2.3.1 - Múltiple ajuste de DRAM y CPU Voltage
CD de soport	- Controladores, Utilerías, Software de Anti Virus (Versión de prueba), Prueba de CyberLink MediaEspresso 6.5, Google Chrome Browser y Toolbar, Start8 (Versión de prueba de 30 días)
Monitor Hardware	- Sensor de temperatura de la CPU - Sensor de temperatura de la Chasis - Tacómetro del ventilador de CPU - Tacómetro del ventilador de Chasis - CPU/Chasis Ventilador silencioso - Control multivelocidad del ventilador de CPU/Chasis - Control de APERTURA DE CARCASA - Monitor de Voltaje: +12V, +5V, +3.3V, Vcore
OS	- En conformidad con Microsoft® Windows® 8.1 32 bits / 8.1 64 bits / 8 32 bits / 8 64 bits / 7 32 bits / 7 64 bits
Certificaciones	- FCC, CE, WHQL - Cumple con la directiva ErP/EuP (se requiere una fuente de alimentación que cumpla con la directiva ErP/EuP)

* Para más información sobre los productos, por favor visite nuestro sitio web: http://www.asrock.com

1.3 Setup de Jumpers

La ilustración muestra como los jumpers son configurados. Cuando haya un jumper-cap sobre los pins, se dice gue el jumper está “Short”. No habiendo jumper cap sobre los pins, el jumper está “Open”. La ilustración muesta un jumper de 3 pins cuyo pin 1 y pin 2 están “Short”.



Jumper	Setting	
Limpiar CMOS (CLRCMOS1, jumper de 3 pins) (ver p.2, No. 9)	1_2 Valor predeterminado	2_3 Restablecimiento de la CMOS

Nota: CLRCMOS1 permite borrar los datos de la memoria CMOS. Para borrar los parámetros del sistema y restablecer la configuración predeterminada de los mismos, apague el equipo y desenchufe el cable de alimentación de la toma de corriente eléctrica. Deje que transcurran 15 segundos y, después, utilice un puente para cortocircuitar los contactos 2 y 3 de CLRCMOS1 durante 5 segundos. No borre la memoria CMOS justamente después de actualizar el BIOS. Si necesita borrar la memoria CMOS justamente después de actualizar el BIOS, debe iniciar primero el sistema y, a continuación, cerrarlo antes de llevar a cabo el borrado de dicha memoria. Tenga en cuenta que la contraseña, la fecha, la hora, el perfil predeterminado del usuario, el GUID 1394 y la dirección MAC solamente se borrará si la batería CMOS se quita.

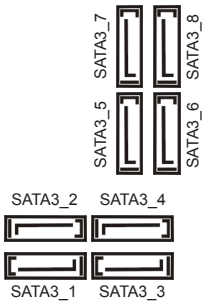
Si borra la memoria CMOS, se puede detectar un caso de abertura. Ajuste la opción del BIOS “Clear Status” (Borrar estado) para borrar elregistro del estado de intrusión anterior del chasis.

1.4 Cabezales y Conectores en Placas

Los conectores y cabezales en placa NO son puentes. NO coloque las cubiertas de los puentes sobre estos cabezales y conectores. El colocar cubiertas de puentes sobre los conectores y cabezales provocará un daño permanente en la placa base.

Conexiones de serie ATA3

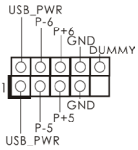
(SATA3_1: vea p.2, N. 16)
(SATA3_2: vea p.2, N. 17)
(SATA3_3: vea p.2, N. 15)
(SATA3_4: vea p.2, N. 14)
(SATA3_5: vea p.2, N. 13)
(SATA3_6: vea p.2, N. 12)
(SATA3_7: vea p.2, N. 10)
(SATA3_8: vea p.2, N. 11)



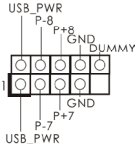
Estas ocho conexiones de serie ATA3 (SATA3) admiten cables SATA para dispositivos de almacenamiento internos. La interfaz SATA3 actual permite una velocidad de transferencia de 6.0 Gb/s.

Cabezal USB 2.0

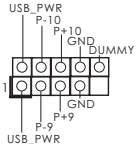
(9-pin USB_5_6)
(vea p.2, N. 21)



(9-pin USB_7_8)
(vea p.2, N. 22)



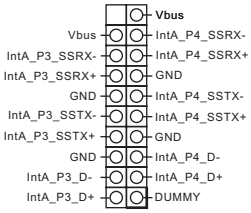
(9-pin USB_9_10)
(vea p.2, N. 23)



Además de cuatro puertos USB 2.0 predeterminados en el panel de E/S, hay tres bases de conexiones USB 2.0 en esta placa base. Cada una de estas bases de conexiones admite dos puertos USB 2.0.

Cabezal USB 3.0

(19-pin USB3_3_4)
(vea p.2, N. 8)



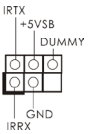
Además de dos puertos 3.0 predeterminados situados en el panel E/S, encontrará una cabecera USB 3.0 en esta placa base. Esta cabecera USB 3.0 admiten dos puertos USB 3.0.

Español

Cabezal de Módulo Infrarrojos

(5-pin IR1)

(vea p.2, N. 27)

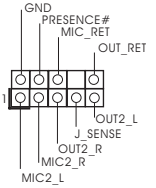


Este cabezal soporta un módulo infrarrojos de transmisión y recepción wireless opcional.

Conector de audio de panel frontal

(9-pin HD_AUDIO1)

(vea p.2, N. 28)



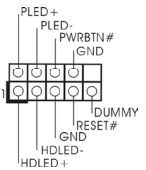
Este es una interface para cable de audio de panel frontal que permite conexión y control conveniente de apparatos de Audio.

1. El Audio de Alta Definición soporta la detección de conector, pero el cable de panel en el chasis debe soportar HDA para operar correctamente. Por favor, siga las instrucciones en nuestro manual y en el manual de chasis para instalar su sistema.
2. Si utiliza el panel de sonido AC'97, instálelo en la cabecera de sonido del panel frontal de la siguiente manera:
   A. Conecte Mic_IN (MIC) a MIC2_L.
   B. Conecte Audio_R (RIN) a OUT2_R y Audio_L (LIN) en OUT2_L.
   C. Conecte Ground (GND) a Ground (GND).
   D. MIC_RET y OUT_RET son sólo para el panel de sonido HD. No necesitará conectarlos al panel de sonido AC'97.
   E. Activación del micrófono frontal.
   En sistemas operativos Windows® 8 / 8 64-bit / 7 / 7 64-bit:
   Acceda a la ficha "FrontMic" (Micrófono frontal) del panel de control Realtek. Ajuste la posición del control deslizante "Recording Volume" (Volumen de grabación).

Cabezal de panel de sistema

(9-pin PANEL1)

(vea p.2, N. 18)



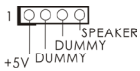
Este cabezar acomoda varias dunciones de panel frontal de sistema.

Conecte el interruptor de alimentación, el interruptor de restablecimiento y el indicador de estado del sistema situados en el chasis con esta cabecera en función de las siguientes asignaciones de contacto. Preste atención a los contactos positivos y negativos antes de conectar los cables.

PWRBTN (interruptor de alimentación):
Conecte el interruptor de encendido situado en el panel frontal del chasis. Puede configurar la forma de apagar su sistema mediante el interruptor de alimentación.
RESTABLECER (interruptor de restablecimiento):
Conecte el interruptor de restablecimiento situado en el panel frontal del chasis. Pulse el interruptor de restablecimiento para restablecer el equipo si se bloquea y no se reinicia con normalidad.
PLED (LED de alimentación del sistema):
Conecte el indicador de estado de alimentación situado en el panel frontal del chasis. El LED se enciende cuando el sistema esté en funcionamiento. El LED parpadea cuando el sistema se encuentre en estado de suspensión S1. El LED se apaga cuando el sistema se encuentre en estado de suspensión S3/S4 o se apaga (S5).
HDLED (LED de actividad del disco duro):
Conecte el LED de actividad de disco duro situado en el panel frontal del chasis. El LED se enciende cuando el disco duro esté leyendo o escribiendo datos.

Es posible que el diseño del panel frontal varíe en función del chasis. Un módulo del panel frontal consiste principalmente de interruptor de alimentación, interruptor de restablecimiento, LED de alimentación, LED de actividad del disco duro, altavoz, etc. Al conectar el módulo del panel frontal del chasis a esta cabecera, asegúrese de que las asignaciones de cables y las asignaciones de contactos coincidan correctamente.

Cabezal del altavoz del chasis
(4-pin SPEAKER1)
(vea p.2, N. 20)



Conecte el altavoz del chasis a su cabezal.

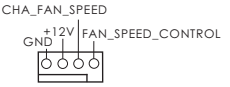
Cabecera de indicador LED de encendido
(3-pin PLED1)
(vea p.2, N. 19)

Conecte el indicador LED de encendido del chasis a esta cabecera para conocer el estado de encendido del sistema. El indicador LED se encenderá si el sistema se encuentra en funcionamiento. El indicador LED parpadeará en el estado S1. El indicador LED se apagará en los estados S3/S4 o S5 (apagado).

Conectores de ventilador de chasis y alimentación

(4-pin CHA_FAN1)

(vea p.2, N. 30)



(3-pin PWR_FAN1)

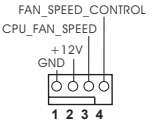
(vea p.2, N. 1)

Por favor, conecte los cables del ventilador a los conectores de ventilador, haciendo coincidir el cable negro con la patilla de masa.

Conector del ventilador de la CPU

(4-pin CPU_FAN1)

(vea p.2, N. 3)



Conecte el cable del ventilador de la CPU a este conector y haga coincidir el cable negro con el conector de tierra.

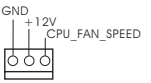
Aunque esta placa base proporciona compatibilidad para un ventilador (silencioso) de procesador de 4 contactos, el ventilador de procesador de 3 contactos seguirá funcionando correctamente incluso sin la función de control de velocidad del ventilador. Si pretende enchufar el ventilador de procesador de 3 contactos en el conector del ventilador de procesador de esta placa base, conéctelo al contacto 1-3.

Contacto 1-3 conectado ←

Instalación del ventilador de 3 contactos

(3-pin CPU_FAN2)

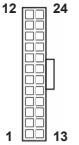
(vea p.2, N. 4)



Cabezal de alimentación ATX

(24-pin ATXPWR1)

(vea p.2, N. 7)



Conecte la fuente de alimentación ATX a su cabezal.

A pesar de que esta placa base incluye in conector de alimentación ATX de 24 pins, ésta puede funcionar incluso si utiliza una fuente de alimentación ATX de 20 pins tradicional. Para usar una fuente de alimentación ATX de 20 pins, por favor, conecte su fuente de alimentación usando los Pins 1 y 13.

Instalación de una Fuente de Alimentación ATX de 20 Pins

Español

Conector de ATX 12V power

(8-pin ATX12V1)

(vea p.2, N. 2)

Tenga en cuenta que es necesario conectar este conector a una toma de corriente con el enchufe ATX 12V, de modo que proporcione suficiente electricidad. De lo contrario no se podrá encender.

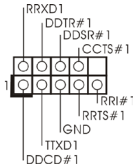
Aunque esta placa base proporciona un conector de energía de 8-pin ATX 12V, puede todavía trabajar si usted adopta un fuente tradicional de energía de 4-pin ATX 12V. Para usar el fuente de energía de 4-pin ATX 12V, por favor conecte su fuente de energía junto con Pin 1 y Pin 5.

Instalación de Fuente de Energía de 4-Pin ATX 12V

Cabezal del puerto COM

(9-pin COM1)

(vea p.2, N. 26)



Este cabezal del puerto COM se utiliza para admitir un módulo de puerto COM.

Conector de detección de intrusión en el chasis

(2-pin CI1)

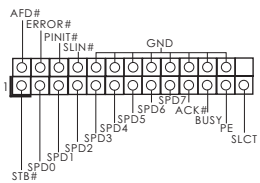
(vea p.2, N. 29)

Esta placa base admite la función de control de APERTURA DE CARCASA, quepermite detectar si se haretirado la cubierta del chasis.Dicha función requiere unchasis con diseño específicopara la detección de intrusiónen el chasis.

Cabecera de puerto de impresora

(LPT1 de 25 terminales)

(vea p.2, N. 25)



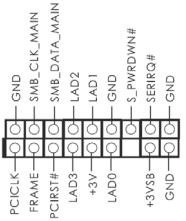
Esta es una interfaz de puerto para cable de impresora que permite conectar cómodamente dispositivos de impresión.

Español

Cabezal TPM

(TPMS1 de 17 terminales)

(vea p.2, N. 24)



Este conector es compatible con el sistema Módulo de Plataforma Segura (TPM, en inglés), que puede almacenar de forma segura claves, certificados digitales, contraseñas y datos. Un sistema TPM también ayuda a aumentar la seguridad en la red, protege identidades digitales y garantiza la integridad de la plataforma.

2. BIOS Información

El Flash Memory de la placa madre deposita SETUP Utility. Durante el Power-Up (POST) apriete <F2> o <Del> para entrar en la BIOS. Sí usted no oprime ninguna tecla, el POST continúa con sus rutinas de prueba. Si usted desea entrar en la BIOS después del POST, por favor reinicie el sistema apretando <Ctl> + <Alt> + <Borrar>, o apretando el botón Reset en el panel del ordenador. Para información detallada sobre como configurar la BIOS, por favor refiérase al Manual del Usuario (archivo PDF) contenido en el CD.

3. Información de Software Support CD

Esta placa-base soporta diversos tipos de sistema operativo Windows®: 8.1 32 bits / 8.1 64 bits / 8 32 bits / 8 64 bits / 7 32 bits / 7 64 bits. El CD de instalación que acompaña la placa-base trae todos los drivers y programas utilitarios para instalar y configurar la placa-base. Para iniciar la instalación, ponga el CD en el lector de CD y se desplegará el Menú Principal automáticamente si «AUTORUN» está habilitado en su computadora. Si el Menú Principal no aparece automáticamente, localice y doble-pulse en el archivo “ASRSETUP.EXE” para iniciar la instalación.

1. Введение

Благодарим вас за покупку материнской платы ASRock ***FM2A88M Extreme4+*** надежной материнской платы, изготовленной в соответствии с постоянно предъявляемыми ASRock жесткими требованиями к качеству. Она обеспечивает превосходную производительность и отличается отличной конструкцией, которые отражают приверженность ASRock качеству и долговечности.

Данное руководство по быстрой установке включает вводную информацию о материнской плате и пошаговые инструкции по ее установке. Более подробные сведения о плате можно найти в руководстве пользователя на компакт-диске поддержки.

Спецификации материнской платы и программное обеспечение BIOS иногда изменяются, поэтому содержание этого руководства может обновляться без уведомления. В случае любых модификаций руководства его новая версия будет размещена на веб-сайте ASRock без специального уведомления. Кроме того, самые свежие списки поддерживаемых модулей памяти и процессоров можно найти на сайте ASRock.
Адрес веб-сайта ASRock http://www.asrock.com
При необходимости технической поддержки по вопросам данной материнской платы посетите наш веб-сайт для получения информации об используемой модели.
www.asrock.com/support/index.asp

1.1 Комплектность

Материнская плата ASRock ***FM2A88M Extreme4+*** (форм-фактор Micro ATX)
Руководство по быстрой установке ASRock ***FM2A88M Extreme4+***
Компакт-диск поддержки ASRock ***FM2A88M Extreme4+***
2 x кабель данных Serial ATA (SATA) (дополнительно)
1 x I/O Щит Группы ввода / вывода

ASRock напоминает...
Для обеспечения максимальной производительности ОС Windows® 8 / 8 64-bit / 7 / 7 64-bit рекомендуется в BIOS выбрать для параметра Storage Configuration (Конфигурация запоминающего устройства) режим AHCI. Подробные сведения о настройке BIOS см. в руководстве пользователя на прилагаемом компакт-диске.

1.2 Спецификации

Платформа	- форм-фактор Micro ATX - Использование только твердотельных конденсаторов
A-Style	- Home Cloud
Процессор	- Поддержка разъема FM2+ 95 Вт / процессоров FM2 100 Вт - Технология 4 + 2 Power Phase Design
Набор микросхем	- AMD A88X (Bolton-D4)
Память	- Поддержка технологии Dual Channel DDR3 Memory Technology - 4 x гнезда DDR3 DIMM - Поддержите DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066/800 не- ECC, безбуферная память * DDR3 2600+ поддерживается только с двумя модулями памяти DIMM. - Макс. 64 Гб - поддержка профиля Intel® Extreme Memory Profile (XMP)1.3/1.2 - поддержка профиля AMD Memory Profile (AMP)
Гнезда расширения	- 1 x слота PCI Express 3.0 x16 (PCIE1: режим x16) * PCIE 3.0 поддерживается только с процессором FM2+. С процессором FM2 поддерживается только PCIE 2.0. - 1 x гнезда PCI Express 2.0 x16 (PCIE3: режим x4) - 1 x гнезда PCI Express 2.0 x1 - 1 x гнезда PCI - Поддерживаются режимы AMD Quad CrossFireX™, CrossFireX™ и двойные видеокарты
Графика	- Встроенный процессор AMD Radeon HD серии 8000/7000 с графикой в APU серии A - DirectX 11.1, Pixel Shader 5.0 с процессором FM2+. DirectX 11, Pixel Shader 5.0 с процессором FM2. - Макс. объем разделяемой памяти 2GB - Три VGA-выхода: D-Sub, DVI-D и HDMI - Поддержка работы с тремя мониторами - Поддержка HDMI с максимальным разрешением до 1920x1200 @ 60 Гц - Поддержка Dual-link DVI-D с максимальным разрешением до 2560x1600 @ 60 Гц - Поддержка D-Sub с максимальным разрешением до 1920x1200 @ 60 Гц - Поддержка Auto Lip Sync, Deep Color (12 бит на цветовой канал), xvYCC и HBR (High Bit Rate Audio) через HDMI (необходим монитор с разъемом HDMI) - Поддержка стандарта Blu-ray Stereoscopic 3D со спецификацией HDMI

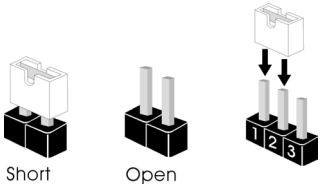
	- Поддержка технологии AMD Steady Video™ 2.0: новая функция постобработки видеоизображения для автоматического устранения дрожания при просмотре домашних и онлайновых видеозаписей - Поддержка функции HDCP через разъемы DVI-D и HDMI - Подержат Blu-луч 1080p (КОММУТАЦИОННАЯ ДОСКА) через разъемы DVI-D и HDMI
Аудиосистема	- 7.1-канальный звук высокой четкости HD Audio с защитой данных (аудиокодек Realtek ALC892) - Поддержка Premium Blu-ray Audio
ЛВС	- PCIE x1 Gigabit LAN 10/100/1000 Мб/с - Qualcomm® Atheros® AR8171 - Поддержка технологи Qualcomm® Atheros® Security Wake On Internet Technology - Поддержка Wake-On-LAN - Поддержка Energy Efficient Ethernet 802.3az - Поддержка PXE
Разъемы ввода-вывода на задней панели	I/O Panel - 1 x порт мыши/клавиатуры PS/2 - 1 x D-Sub порт - 1 x DVI-D порт - 1 x HDMI порт - 1 x порт Optical SPDIF Out - 4 x порта USB 2.0 на задней панели в стандартной конфигурации - 2 x порта USB 3.0 на задней панели в стандартной конфигурации (AMD A88X (Bolton-D4)) - Разъем 1 x RJ-45 LAN с светодиодным индикатором (индикатор ACT/LINK и индикатор SPEED) - Соединитель звуковой подсистемы: тыльная колонка / центральная / субвуфер / линейный вход / передняя колонка / микрофон
Запоминающие устройства	- 8 x разъема SATA3 6,0 Гбит/с, поддержка функций RAID (RAID 0, RAID 1, RAID 5 и RAID 10), NCQ, AHCI и «горячего подключения»
Колодки и плате	- 1 x Колодка инфракрасного модуля - 1 x Разъем порта печати - 1 x Колодка COM - 1 x разъем датчика открытой крышки - 1 x колодка TPM - 1 x разъем Power LED - 2 x соединитель CPU FAN (1 x 4-контактный, 1 x 3-контактный) - 1 x соединитель Chassis FAN (4-контактный) - 1 x соединитель Power FAN (3-контактный) - 1 x 24-контактный Колодка питания ATX - 1 x 8-контактный Разъем ATX 12 В - 1 x Аудиоразъем передней панели - 3 x Колодка USB 2.0 (одна колодка для поддержки 6 дополнительных портов USB 2.0 - 1 x Колодка USB 3.0 AMD A88X (Bolton-D4) (одна колодка для поддержки 2 дополнительных портов USB 3.0)

BIOS	- 64 Мб AMI UEFI Legal BIOS с поддержкой многоязычного ГИП - поддержка “Plug and Play” - ACPI 1.1, включение по событиям - поддержка режима настройки без перемычек - поддержка SMBIOS 2.3.1 - Регулировка напряжений DRAM и CPU
Компактдиск поддержки	- Драйверы, Утилиты, Антивирус (пробная версия), Пробная версия программы CyberLink MediaEspresso 6.5, Google Chrome Browser и Toolbar, Start8 (демоверсия на 30 дней)
Контроль оборудования	- Датчик температуры ЦП - Датчик температуры корпуса - Тахометр вентиляторов ЦП питания - Тахометр вентиляторов корпуса питания - Бесшумный вентилятор ЦП/корпуса - Управление оборотами вентилятора ЦП/корпуса - Определение открытой крышки - Контроль напряжения: +12V, +5V, +3.3V, Vcore
Операцион	- Совместимость с Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
ные системы Сертификаты	- FCC, CE, WHQL - Совместимость с ErP/EuP Ready (требуется блок питания совместимый с ErP/EuP)

* Для детальной информации продукта, пожалуйста посетите наш вебсайт: http://www.asrock.com

1.3 Установка перемычек

Конфигурация перемычек иллюстрируется на рисунке. Когда перемычка надета на контакты, они называются “замкнутыми” (short). Если на контактах перемычки нет, то они называются “разомкнутыми” (open). На иллюстрации показана 3-контактная перемычка, у которой контакты 1 и 2 замкнуты.



Перемычка	Установка	Описание
Очистка CMOS (CLRCMOS1, 3-контактная перемычка) (см. стр. 2, п. 9)	1_2 Стандартные; 2_3 Очистка CMOS	

Примечание. Контактная колодка CLRCMOS1 позволяет очистить данные CMOS. Для очистки данных и восстановления заводских системных параметров сначала выключите компьютер и отсоедините сетевую вилку кабеля питания от электророзетки. Выждите не менее 15 секунд и колпачковой перемычкой на 5 секунд перемкните штырьки 2 и 3 контактной колодки CLRCMOS1. Однако не производите очистку CMOS непосредственно после обновления BIOS. Если необходимо очистить CMOS сразу же после окончания обновления BIOS, то, перед очисткой CMOS, необходимо сначала выполнить загрузку системы, а затем завершить ее работу. Примите во внимание, что пароль, дата, время, профиль пользователя по умолчанию, идентификатор 1394 GUID и MAC-адрес будут очищены только тогда, когда будет извлечена из своего гнезда батарейка CMOS.

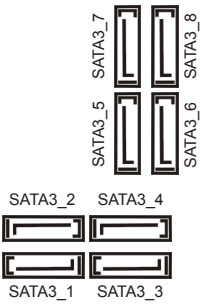
Очистка CMOS может вызвать срабатывание датчика открытой крышки. Измените опцию «Clear Status» в BIOS, чтобы очистить записи о предыдущих срабатываниях датчика.

Русский

1.4 Колодки и разъемы на плате

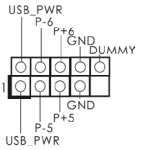
Имеющиеся на плате колодки и разъемы НЕ ЯВЛЯЮТСЯ контактами для перемычек. НЕ УСТАНАВЛИВАЙТЕ перемычки на эти колодки и разъемы – это приведет к необратимому повреждению материнской платы!

Разъемы Serial ATA3
(SATA3_1, см. стр. 2, п. 16)
(SATA3_2, см. стр. 2, п. 17)
(SATA3_3, см. стр. 2, п. 15)
(SATA3_4, см. стр. 2, п. 14)
(SATA3_5, см. стр. 2, п. 13)
(SATA3_6, см. стр. 2, п. 12)
(SATA3_7, см. стр. 2, п. 10)
(SATA3_8, см. стр. 2, п. 11)

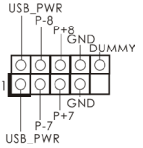


восемь соединителя Serial ATA3 предназначаются для подключения внутренних устройств хранения с использованием нтерфейсных кабелей SATA3. В настоящее время интерфейс SATA допускает скорость передачи данных до \ 6,0 Гбит/с.

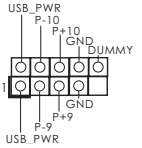
Колодка USB 2.0
(9-контактный USB_5_6)
(см. стр. 2, п. 21)



(9-контактный USB_7_8)
(см. стр. 2, п. 22)

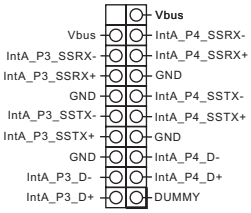


(9-контактный USB_9_10)
(см. стр. 2, п. 23)



Помимо четыре стандартных портов USB 2.0 на панели ввода-вывода, на данной материнской плате предусмотрено три разъема USB 2.0. Каждый разъем USB 2.0 поддерживает два порта USB 2.0.

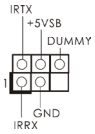
Колодка USB 3.0
(19-контактный USB3_3_4)
(см. стр. 2, п. 8)



Помимо два стандартных портов USB 3.0 на панели ввода-вывода, на данной материнской плате предусмотрен один разъем USB 3.0. Этот разъем USB 3.0 поддерживает два порта USB 3.0.

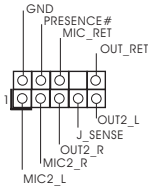
Русский

Колодка инфракрасного модуля
(5-контактный IR1)
(см. стр. 2, п. 27)



Данная колодка позволяет подключить дополнительный модуль беспроводного инфракрасного приемопередатчика.

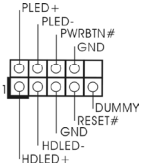
Аудиоразъем передней панели
(9-контактный HD_AUDIO1)
(см. стр. 2, п. 28)



Этот интерфейс предназначен для присоединения аудиокабеля передней панели, обеспечивающего удобное подключение аудиоустройств и управление ими.

1. Система High Definition Audio поддерживает функцию автоматического обнаружения разъемов (Jack Sensing), однако для ее правильной работы кабель панели в корпусе должен поддерживать HDA. При сборке системы следуйте инструкциям, приведенным в нашем руководстве и руководстве пользователя для корпуса.
2. Если вы используете аудиопанель AC'97, подключите ее к колодке аудиоинтерфейса передней панели следующим образом:
   A. Подключите выводы Mic_IN (MIC) к контактам MIC2_L.
   B. Подключите выводы Audio_R (RIN) к контактам OUT2_R, а выводы Audio_L (LIN) к контактам OUT2_L.
   C. Подключите выводы Ground (GND) к контактам Ground (GND).
   D. Контакты MIC_RET и OUT_RET предназначены только для аудиопанели HD. При использовании аудиопанели AC'97 подключать их не нужно.
   E. Процедура активации микрофона приведена ниже.]
   Для ОС Windows® 8 / 8 64-бита / 7 / 7 64-бита:
   Перейдите к вкладке «FrontMic» (Передний микрофон) в панели управления Realtek. Отрегулируйте уровень «Recording Volume» (Громкость записи).

Колодка системной панели
(9-контактный PANEL1)
(см. стр. 2, п. 18)



Данная колодка обеспечивает работу нескольких функций передней панели системы.

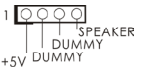
Русский

Подключите к этому разъему кнопку питания, кнопку сброса и индикатор состояния системы на корпусе в соответствии с указанным ниже назначением контактов. При подключении кабелей необходимо соблюдать полярность положительных и отрицательных контактов.

PWRBTN (кнопка питания):
Подключите к этим контактам кнопку питания на передней панели корпуса. Способ выключения системы с помощью кнопки питания можно настроить.
RESET (кнопка сброса):
Подключите к этим контактам кнопку сброса на передней панели корпуса. Нажмите кнопку сброса для перезагрузки компьютера, если компьютер «завис» и нормальную перезагрузку выполнить не удается.
PLED (индикатор питания системы):
Подключите к этим контактам индикатор состояния питания на передней панели корпуса. Этот индикатор светится, когда система работает. Индикатор мигает, когда система находится в режиме ожидания S1. Этот индикатор не светится, когда система находится в режиме ожидания S3 или S4, либо выключена (S5).
HDLED (индикатор активности жесткого диска):
Подключите к этим контактам индикатор активности жесткого диска на передней панели корпуса. Этот индикатор светится, когда осуществляется считывание или запись данных на жестком диске.

Конструкция передней панели может различаться в зависимости от корпуса. Модуль передней панели в основном состоит из кнопки питания, кнопки сброса, индикатора питания, индикатора активности жесткого диска, динамика и т.п. При подключении к этому разъему модуля передней панели корпуса удостоверьтесь, что провода подключаются к соответствующим контактам.

Колодка динамика корпуса
(4-контактный SPEAKER1)
(см. стр. 2, п. 20)



Подключите к этой колодке кабель от динамика на корпусе компьютера.

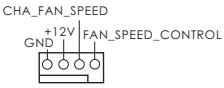
разъем Power LED
(3-контактный PLED1)
(см. стр. 2, п. 19)

Подключите индикатор Power LED к этому разъему для отображения статуса питания системы. Этот светодиод продолжит мигать в режиме S1. Светодиод будет выключен в режимах S3/S4 или S5 (система выключена).

Chassis и Power Fan-соединители

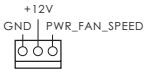
(4-контактный CHA_FAN1)

(см. стр. 2, п. 30)



(3-контактный PWR_FAN1)

(см. стр. 2, п. 1)

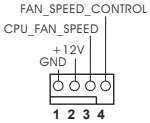


Подключите кабели вентилятора к соединителям и присоедините черный шнур к штырю заземления.

Разъем вентилятора процессора

(4-контактный CPU_FAN1)

(см. стр. 2, п. 3)



Подключите к этому разъему кабель вентилятора процессора так, чтобы черный провод соответствовал контакту земли.

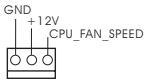
Данная материнская плата поддерживает вентиляторы процессора с 4-контактным разъемом (функция тихого режима вентилятора), однако вентиляторы с 3-контактным разъемом также будут успешно работать, хотя функция управления скоростью вращения вентилятора окажется недоступной. Если вы хотите подключить вентилятор процессора с 3-контактным разъемом к разъему вентилятора процессора на данной материнской плате, для этого следует использовать контакты 1-3.

Контакты 1-3 подключены

Установка вентилятора с 3-контактным разъемом

(3-контактный CPU_FAN2)

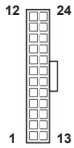
(см. стр. 2, п. 4)



Колодка питания ATX

(24-контактный ATXPWR1)

(см. стр. 2, п. 7)



Подключите к этой колодке кабель питания ATX.

Несмотря на то, что эта материнская плата предусматривает 24-штыревой разъем питания ATX, работа будет продолжаться, даже если адаптируется традиционный 20-штыревой разъем питания ATX. Для использования 20-штыревого разъема питания ATX вставьте источник питания вместе со штекером 1 и штекером 13.

Установка 20-штыревого разъема питания ATX

Русский

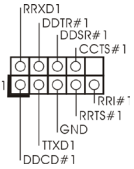
Колодка питания 12V-ATX
(8-контактный ATX12V1)
(см. стр. 2, п. 2)

Обратите внимание, что к этому разъему необходимо подключить вилку блока питания ATX 12 В, чтобы обеспечить достаточную мощность электропитания. В противном случае включение системы будет невозможно.

Хотя эта объединительная плата обеспечивает ATX с 8 булавками 12V соединитель власти, это может все еще работать, если Вы принимаете традиционный ATX с 4-Pin 12V электропитание. Чтобы использовать электропитание ATX с 4-Pin, пожалуйста включите ваше электропитание наряду с Булавкой 1 и Прикрепите 5.

ATX С 4-Pin 12V Установка Электропитания

Колодка COM-порта
(9-контактный COM1)
(см. стр. 2, п. 26)

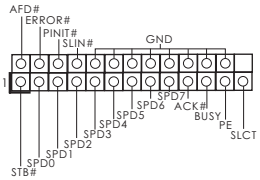


Данная колодка COM-порта позволяет подключить модуль порта COM.

Датчик открытой крышки
(2-контактный CI1)
(см. стр. 2, п. 29)

Эта материнская плата поддерживает функцию определения открытой крышки, которая позволяет определить, была ли снята крышка корпуса. Функция требует поддержку со стороны корпуса.

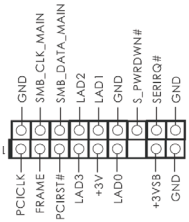
Разъем порта печати
(25-выводов LPT1)
(см. стр. 2, п. 25)



Это интерфейс кабеля порта печати, обеспечивающий удобное подключение принтеров.

Русский

Колодка TPM
(17-выводов TPMS1)
(см. стр. 2, п. 24)



Этот разъем обеспечивает поддержку системы Trusted Platform Module (TPM), которая способна обеспечить надежное хранение ключей, цифровых сертификатов, паролей и данных. Система TPM также повышает уровень сетевой безопасности, защищает цифровые идентификаторы и обеспечивает целостность платформы.

2. Информация о BIOS

Утилита настройки BIOS (BIOS Setup) хранится во флэш-памяти на материнской плате. Чтобы войти в программу настройки BIOS Setup, при запуске компьютера нажмите <F2> или <Del> во время самопроверки при включении питания (Power-On-Self-Test – POST). Если этого не сделать, то процедуры тестирования POST будут продолжаться обычным образом. Если вы захотите вызвать BIOS Setup уже после POST, перезапустите систему с помощью клавиш <Ctrl> + <Alt> + <Delete> или нажатия кнопки сброса на корпусе системы. Подробную информацию о программе BIOS Setup вы найдете в Руководстве пользователя (в формате PDF) на компакт-диске поддержки.

3. Информация о компакт-диске поддержки с программным обеспечением

Данная материнская плата поддерживает различные операционные системы Microsoft® Windows®: 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit. Поставляемый вместе с ней компакт-диск поддержки содержит необходимые драйверы и полезные утилиты, которые расширяют возможности материнской платы.

Чтобы начать работу с компакт-диском поддержки, вставьте его в дисковод CD-ROM. Если в вашем компьютере включена функция автозапуска (AUTORUN), то на экране автоматически появится главное меню компакт-диска (Main Menu). Если этого не произошло, найдите в папке BIN на компакт-диске поддержки файл ASRSETUP.EXE и дважды щелкните на нем, чтобы открыть меню.

1. Introdução

Gratos por comprar nossa placa–mãe ***FM2A88M Extreme4+*** um produto confiável feito com ASRock um estrito controle de qualidade consistente. Com um excelente desempenho, essa placa é dotada de um projeto robusto que atende a ASRock de compromisso com a qualidade e durabilidade.

Este Guia de Instalação Rápida apresenta a placa-mãe e o guia de instalação passo a passo. Mais informações detalhadas sobre a placa-mãe podem ser encontradas no manual do usuário do CD de suporte.

Porque as especificações da placa mãe e o software de BIOS poderiam ser atualizados, o conteúdo deste manual pode ser cambiado sem aviso. Em caso de qualquer modificação deste manual, a versão atualizada estará disponível no website de ASRock sem prévio aviso. Pode também encontrar as listas das mais recentes placas VGA e das CPUs suportadas no site da web da ASRock.

Website de ASRock http://www.asrock.com

Se precisar de apoio técnico em relação a este placa-mãe, por favor visite o nosso sítio da internet para informação específica acerca do modelo que está a utilizar.

www.asrock.com/support/index.asp

1.1 Este pacote contém

Placa-mãe ASRock ***FM2A88M Extreme4+*** (Formato Micro ATX)
Guia de instalação rápida da ASRock ***FM2A88M Extreme4+***
CD de suporte da placa ASRock ***FM2A88M Extreme4+***
Dois cabo de dados ATA Serial (SATA) (Opcional)
Uma proteção I/O

A ASRock recorda-lhe...

Para obter melhor desempenho em Windows® 8 / 8 64-bit / 7 / 7 64-bit, recomendamos que defina a opção Configuração de Armazenamento na BIOS para o modo AHCI. Para mais detalhes acerca da configuração da BIOS consulte o “Manual de utilizador” no nosso CD de suporte.

Português

1.2 Especificações

Plataforma	- Formato Micro ATX - Design de condensador sólido
Estilo A	- Home Cloud
CPU	- Suporta processadores com Socket FM2+ a 95W / FM2 a 100W - Alimentação de 4 + 2 fases
Chipsets	- AMD A88X (Bolton-D4)
Memória	- Suporte à tecnologia de memória de duplo canal - 4 x slots de DDR3 DIMM - Suporta memória DDR3 2600+(OC)/2400(OC)/2133(OC)/1866 /1600/1333/1066/800, não ECC, sem tampão * DDR3 2600+ é suportado apenas com dois DIMMs. - Capacidade máxima de memória do sistema: 64GB - Suporta Extreme Memory Profile (XMP)1.3/1.2 da Intel® - Suporta Perfil de Memória AMD (AMP)
Slots de Expansão	- 1 x slot de PCI Express 3.0 x16 (PCIE1: modo x16) * PCIE 3.0 é suportado apenas com CPU FM2+. CPU FM2 suporta apenas PCIE 2.0. - 1 x slot de PCI Express 2.0 x16 (PCIE3: modo x4) - 1 x slot de PCI Express 2.0 x1 - 1 x slot de PCI - Suporta Quad CrossFireX™, CrossFireX™ e Dual Graphics da AMD
VGA integrado	- Placa gráfica integrada AMD Radeon HD série 8000/7000 na APU série A - DirectX 11.1, Pixel Shader 5.0 com CPU FM2+. DirectX 11, Pixel Shader 5.0 com CPU FM2. - Memória partilhada máxima 2GB - Três opções de saída VGA: D-Sub, DVI-D e HDMI - Suporta configuração com três monitores - Suporta HDMI Tecnologia com resolução máxima até 1920x1200 @ 60Hz - Suporta Dual-link DVI-D com resolução máxima até 2560x1600 @ 60Hz - Suporta D-Sub com resolução máxima até 1920x1200 @ 60Hz - Suporta as funções Auto Lip Sync (Sincronização automática do som), Deep Color (Profundidade da cor) (12bpc), xvYCC e

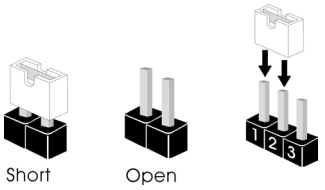
	HBR (áudio de taxa de bits elevada) com HDMI (é necessário um monitor compatível com a norma HDMI) - Suporta 3D Estereoscópico Blu-ray com HDMI - Suporta AMD Steady Video™ 2.0: Nova capacidade de pós-processamento de vídeo para redução automática de vibrações em vídeo local/online - Suporta função HDCP com portas DVI-D e HDMI - Suporta a norma Blu-ray de alta definição 1080p (BD) com portas DVI-D e HDMI
Áudio	- Áudio HD de 7.1 canais com protecção de conteúdo (Codec de áudio Realtek ALC892) - Suporte áudio Blu-ray superior
LAN	- LAN Gigabit 10/100/1000 Mb/s PCIE x1 - Qualcomm® Atheros® AR8171 - Suporta a tecnologia Qualcomm® Atheros® Security Wake On Internet - Suporta Wake-On-LAN - Suporta IEEE 802.3az - Suporta PXE
Entrada/Saída pelo painel	I/O Panel - 1 x porta para teclado/mouse PS/2 - 1 x porta D-Sub - 1 x porta DVI-D - 1 x porta HDMI - 1 x Porta de saída SPDIF óptica - 4 x portas USB 2.0 padrão - 2 x portas USB 3.0 padrão (AMD A88X (Bolton-D4)) - 1 x porta LAN RJ-45 com LED (LED ACT/LIG e LED VELOCIDADE) - Ficha de áudio HD: Altifalante traseiro/Central/Baixos/Entrada de linha/Altifalante frontal/Microfone
Armazenamento	- 8 x conectores SATA3 a 6,0 Gb/s, com suporte para RAID (RAID 0, RAID 1, RAID 5 e RAID 10), NCQ, AHCI e funções Hot Plug
Conectores	- 1 x Conector do módulo de infravermelho - 1 x Conector de Porta de Impressão - 1 x conector de porta COM - 1 x Conector de intrusão no chassis - 1 x Terminal TPM - 1 x Conector para LED de alimentação - 2 x Conector do ventilador da CPU (1 x 4 pinos, 1 x 3 pinos)

	- 1 x Conector do ventilador da chassis (4 pinos) - 1 x Conector do ventilador da energia (3 pinos) - 1 x Conector de força do ATX de 24 pinos - 1 x Conector ATX 12 V de 8 pinos - 1 x Conector Áudio do painel frontal - 3 x cabezal USB 2.0 (suporta 6 portas USB 2.0) - 1 x cabezal USB 3.0 pela AMD A88X (Bolton-D4) (suporta 2 portas USB 3.0)
BIOS	- BIOS UEFI oficial da AMI de 64Mb com suporte de interface multilíngue - Suporta dispositivos “Plug and Play” - ACPI 1.1 atendendo a eventos de “wake up” - Suporta dispositivos sem jumper - Suporte para SMBIOS 2.3.1 - DRAM e CPU Voltage Multi-adjustment
CD de suporte	- Controladores, utilitários, software antivírus (Experimentacao Versao), CyberLink MediaEspresso 6.5 versão de demonstração, Navegador Google Chrome e Barra de Ferramentas, Start8 (30 dias de avaliação)
Monitor do HW	- Sensores de temperature do procesador - Medição de temperatura da chassis - Tacômetros de ventilador do processador - Tacômetros de ventilador do chassis - Ventoinha silenciosa para a processador/chassis - Processador/chassis Fan Controle Multi-Velocidade - Detecção de CAIXA ABERTA - Monitoramento de voltagem: +12 V, +5 V, +3.3 V, Vcore
Sistema Operacional	- Microsoft® Windows® 8.1 de 32 bits / 8.1 de 64 bits / 8 de 32 bits / 8 de 64 bits / 7 de 32 bits / 7 de 64 bits
Certificações	- FCC, CE, WHQL - “ErP/EuP Ready” (é necessária alimentação eléctrica “ErP/EuP Ready”)

* Para informações mais detalhadas por favor visite o nosso sítio Web: http://www.asrock.com

1.3 Configuração dos Jumpers

A ilustração mostra como os jumpers são configurados. Quando há uma capa de jumpers sobre os pinos, diz–se que o jumper está “curto”. Não havendo capa sobre os pinos, o jumper está “aberto”. A ilustração mostra um jumper de 3 pinos em que os pinos 1 e 2 están “curtos” quando a capa de jumper estiver colocada sobre esses 2 pinos.



Jumper	Configuração
Restaurar CMOS (CLRCMOS1, jumper de 3 pinos) (veja a folha 2, No. 9)	1_2 Configuração-padrão 2_3 Limpar o CMOS

Nota: CLRCMOS1 permite você limpar os dados em CMOS. Os dados em CMOS incluem informações da configuração do sistema como: por exemplo a senha do sistema, data, tempo, e os parámetros da configuração do sistema. Para limpar e reconfigurar os parámetros do sistema a configuração inicial da fábrica, por favor desligue o cabo de força, ponha em curto–circuito os pin 2 e pin 3 de CLRCMOS1 por mais de 5 segundos para limpar o CMOS usando um jumper. Por favor lembrese de remover o jumper depois de limpar o COMS. Se precisar limpar o CMOS ao concluir a atualização do BIOS, deverá reiniciar o sistema primeiro e, em seguida, desligá-lo antes de executar a ação de limpeza o CMOS. Tenha em atenção que a palavra-passe, data, hora, perfil predefinido de utilizador, 1394 GUID e endereço MAC apenas serão limpos se a bateria do CMOS for retirada.

Se limpar o CMOS, poderá ser detectada a abertura da caixa. Ajuste aopção do BIOS “Clear Status” (Limpar estado) para limpar o registo anterior de estado de intrusão no chassis.

1.4 Conectores

Os conectores NÃO SÃO jumpers. NÃO coloque capas de jumper sobre estes conectores. A colocação de pontos de jumper sobre os conectores causará danos irreversíveis à placa-mãe.

Conectores ATA3 Serial

(SATA3_1: veja a folha 2, No. 16)

(SATA3_2: veja a folha 2, No. 17)

(SATA3_3: veja a folha 2, No. 15)

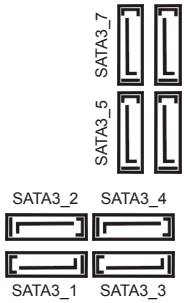
(SATA3_4: veja a folha 2, No. 14)

(SATA3_5: veja a folha 2, No. 13)

(SATA3_6: veja a folha 2, No. 12)

(SATA3_7: veja a folha 2, No. 10)

(SATA3_8: veja a folha 2, No. 11)



Estes oito conectores Serial ATA (SATA3) suportam unidades de disco rígido SATA ou SATA3 como dispositivos de armazenamento internos. A atual interface SATA3 permite uma taxa de transferência de dados de até 6.0 Gb/s.

Cabezal USB 2.0

(USB_5_6 de 9 pinos)

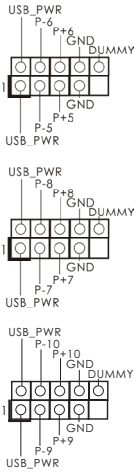
(veja a folha 2, No. 21)

(USB_7_8 de 9 pinos)

(veja a folha 2, No. 22)

(USB_9_10 de 9 pinos)

(veja a folha 2, No. 23)

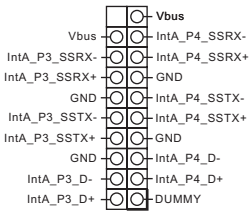


Além das quatro portas USB 2.0 por defeito no painel de entrada/saída, há três ligações USB 2.0 nesta placa-mãe. Cada ligação USB 2.0 pode suportar dois portas USB 2.0.

Cabezal USB 3.0

(USB3_3_4 de 19 pinos)

(veja a folha 2, No. 8)



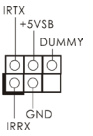
Além das dois portas USB 3.0 por defeito no painel de entrada/saída, há uns ligações USB 3.0 nesta placa-mãe. Cada ligação USB 3.0 pode suportar dois portas USB 3.0.

Português

Conector do módulo de infravermelho

(IR1 de 5 pinos)

(veja a folha 2, No. 27)

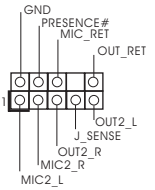


Este conector suporta um módulo de infravermelho para transmissão e recepção sem fio, opcional.

Conector Áudio do painel frontal

(HD_AUDIO1 de 9 pinos)

(veja a folha 2, No. 28)



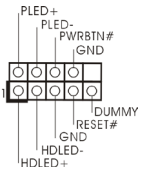
Esta é uma interface para o cabo de áudio no painel frontal, que permite uma conexão e controle convenientes dos dispositivos de áudio.

1. Áudio de elevada definição que suporta a sensibilidade da tomada, mas o fio do painel existente no chassis tem de suportar HDA para funcionar correctamente. Siga s instruções que aparecem no manual e no manual do chassis para instalar o sistema.
2. Se utilizar o painel de áudio AC'97, instale-o no cabeçalho de áudio do painel frontal, como a figura abaixo mostra:
   A. Ligue o Mic_IN (MIC) ao MIC2_L.
   B. Ligue o Audio_R (RIN) ao OUT2_R e o Audio_L (LIN) ao OUT2_L.
   C. Ligue o Ground (GND) ao Ground (GND).
   D. MIC_RET e OUT_RET são apenas para o painel de áudio HD. Não necessita de os ligar para o painel de áudio AC'97.
   E. Para activar o microfone frontal.
      Para os Sistemas Operativos Windows® 8 / 8 64-bit / 7 / 7 64-bit: Aceda ao separador "Microfone frontal" no painel de Controlo Realtek. Ajuste o "Volume de gravação".

Conector do painel do sistema

(PANEL1 de 9 pinos)

(veja a folha 2, No. 18)



Este conector acomoda várias funções do painel frontal do sistema.

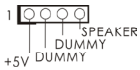
Ligue o botão de alimentação, o botão de reposição e o indicador do estado do sistema no chassis a este conector de acordo com a descrição abaixo. Tenha em atenção os pinos positivos e negativos antes de ligar os cabos.

PWRBTN (Botão de alimentação):
Ligue ao botão de alimentação no painel frontal do chassis. Pode configurar a forma para desligar o seu sistema através do botão de alimentação.

RESET (Botão de reposição):
Ligue ao botão de reposição no painel frontal do chassis. Prima o botão de reposição para reiniciar o computador caso este bloqueie e não seja possível reiniciar normalmente.
PLED (LED de alimentação do sistema):
Ligue ao indicador do estado da alimentação no painel frontal do chassis. O LED ficará acesso quando o sistema estiver em funcionamento. O LED ficará intermitente quando o sistema estiver no estado de suspensão S1. O LED ficará desligado quando o sistema estiver nos estados de suspensão S3/S4 ou desligado (S5).
HDLED (LED de actividade do disco rígido):
Ligue ao LED de actividade do disco rígido no painel frontal do chassis. O LED ficará acesso quando o disco rígido estiver a ler ou a escrever dados.

O design do painel frontal poderá variar dependendo do chassis. Um módulo de painel frontal consiste principalmente em um botão de alimentação, um botão de reposição, um LED de alimentação, um LED de actividade do disco rígido, um altifalante, etc. Ao ligar o seu módulo de painel frontal do chassis a este conector, certifique-se que os fios e os pinos têm uma correspondência exacta.

Conector do alto-falante do chassi
(SPEAKER1 de 4 pinos)
(veja a folha 2, No. 20)

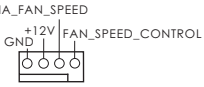


Ligue o alto-falante do chassi neste conector.

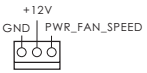
Conector do LED de alimentação
(PLED1 de 3 pinos)
(veja a folha 2, No. 19)

Ligue o LED de alimentação do chassis a este conector para indicar o estado de alimentação do sistema. O LED ficará acesso quando o sistema estiver em funcionamento. O LED fica intermitente no estado S1. O LED fica desligado nos estados S3/S4 ou no estado S5 (desligado).

Conector do ventilador do chassis/energia
(CHA_FAN1 de 4 pinos)
(veja a folha 2, No. 30)



(PWR_FAN1 de 3 pinos)
(veja a folha 2, No. 1)



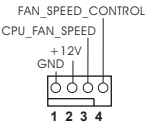
Ligue o cabo do ventilador neste conector, coincidindo o fio preto com o pino de aterramento.

Português

Conector do ventilador da CPU

(CPU_FAN1 de 4 pinos)

(veja a folha 2, No. 3)



Ligue o cabo do ventilador da CPU, coincidindo o fio preto com o pino de aterramento.

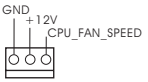
Apesar de esta placa-mãe possuir 4 apoios para uma ventoinha de CPU (Ventoinha silenciosa), uma ventoinha de 3 pinos para CPU poderá funcionar mesmo sem a função de controlo de velocidade da ventoinha. Se pretender ligar uma ventoinha de 3 pinos para CPU ao conector de ventoinha do CPU nesta placa-mãe, por favor, ligue-a aos pinos 1-3.

Pinos 1-3 ligados

Instalação de Ventoinha de 3 pinos

(CPU_FAN2 de 3 pinos)

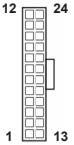
(veja a folha 2, No. 4)



Conector de força do ATX

(ATXPWR1 de 24 pinos)

(veja a folha 2, No. 7)



Ligue a fonte de alimentação ATX neste conector.

Embora esta placa-mãe providencie um conector de energia ATX de 24 pinos, pode apesar disso funcionar com a adapta-ção de uma fonte de energia tradicional de 20 pinos. Para usar a fonte de alimentação de 29 pinos, por favor ligue a sua fonte de alimentação com o Pino 1 e o Pino 13.

Instalação da Fonte de alimentação ATX de 20 Pinos

Conector de força do ATX 12V

(ATX12V1 de 8 pinos)

(veja a folha 2, No. 2)

Ligue a fonte de alimentação ATX 12V neste conector.

Embora esta placa-mãe providencie um conector de energia ATX 12V de 8 pinos, pode apesar disso funcionar com a adapta-ção de uma fonte de energia tradicional de 4 pinos. Para usar a fonte de alimentação de 4 pinos, por favor ligue a sua fonte de alimentação com o Pino 1 e o Pino 5.

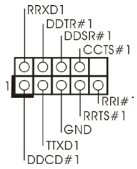
Instalação da Fonte de alimentação ATX 12V de 4 Pinos

Português

Conector de porta de série

(COM1 de 9 pinos)

(veja a folha 2, No. 26)



Este conector COM1 suporta um módulo de porta de série.

Conector de intrusão no chassis

(CI1 de 2 pinos)

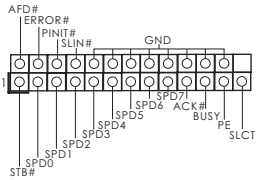
(veja a folha 2, No. 29)

Esta placa principal suporta a função de detecção de ABERTURA da CAIXA quedetecta se a tampa do chassisfoi removida. Esta funçãorequer um chassis com designde detecção de intrusão.

Porta de impressão

(LPT1 de 25 pinos)

(veja a folha 2, No. 25)

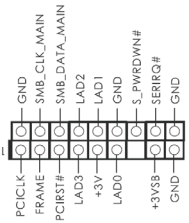


Esta é a interface do cabo que liga à porta de impressão e permite a fácil ligação de impressoras.

Terminal TPM

(TPMS1 de 17 pinos)

(veja a folha 2, No. 24)



Este conector suporta um sistema com Módulo de Plataforma Confiável (TPM), que pode armazenar com segurança chaves, certificados digitais, palavras-passe e dados. Um sistema TPM também ajuda a melhorar a segurança de rede, a proteger identidades digitais e a garantir a integridade da plataforma.

2. Informações da BIOS

O Utilitário de Configuração do BIOS está armazenado no chip FWH do BIOS. Ao iniciar o computador, pressione <F2> ou <Del> durante o Autoteste de iniciação (POST) para acessar o Utilitário de Configuração do BIOS; caso contrário, o POST continuará com as rotinas de teste. Se desejar acessar o Utilitário de Configuração do BIOS depois do POST, reinicie o sistema pressionando <Ctl> + <Alt> + <Del>, ou pressionando o botão de reinício no chassi do sistema. Para as informações detalhadas sobre o Utilitário de Configuração do BIOS, consulte o Manual do Usuário (arquivo PDF) no CD de suporte.

3. Informações do CD de Suporte

Esta placa Mãe suporta vários sistemas operacionais: Microsoft® Windows®: 8.1 de 32 bits / 8.1 de 64 bits / 8 32 de bits / 8 de 64 bits / 7 de 32 bits / 7 de 64 bits. O CD de instalação que acompanha a placa Mãe contem: drivers e utilitários necessários para um melhor desempenho da placa Mãe. Para começar a usar o CD de instalação, introduza o CD na leitora de CD-ROM do computador. Automaticamente iniciará o menu principal, casa o AUTORUN esteja ativado. Se o menu principal não aparecer automaticamente, explore o CD e execute o “ASRSETUP.EXE” localizado na pasta BIN.

1. Giriş

ASRock'ın kesintisiz titiz kalite denetimi altında üretilen güvenilir bir anakart olan ASRock ***FM2A88M Extreme4+*** anakartını satın aldığınız için teşekkür ederiz. ASRock'ın kalite ve dayanıklılık konusundaki kararlılığına uygun güçlü tasarımıyla mükemmel bir performans sunar.

Bu Hızlı Takma Kılavuzu anakarta giriş ve adım adım takma kılavuzu içerir. Anakart hakkında daha ayrıntılı bilgiyi Destek CD'sinde sunulan kullanıcı kılavuzunda bulabilirsiniz.

Anakart özellikleri ve BIOS yazılımı güncelleştirilebileceğinden bu kılavuzun içeriği önceden haber verilmeksizin değişebilir. Bu belgede değişiklik yapılması durumun -da, güncelleştirilmiş sürüm ayrıca haber verilmeksizin ASRock web sitesinde sunulur. En son VGA kartlarını ve CPU destek listelerini de ASRock web sitesinde bulabilirsiniz. ASRock web sitesi http://www.asrock.com

Bu anakartla ilgili teknik desteğe ihtiyacınız olursa, kullandığınız modele özel bilgiler için lütfen web sitemizi ziyaret edin.
www.asrock.com/support/index.asp

1.1 Paket İçindekiler

ASRock ***FM2A88M Extreme4+*** Anakart (Mikro ATX Form Faktörü)
ASRock ***FM2A88M Extreme4+*** Hızlı Takma Kılavuzu
ASRock ***FM2A88M Extreme4+*** Destek CD'si
2 x Seri ATA (SATA) Veri Kablosu (İsteğe Bağlı)
1 x G/Ç Panel Kalkanı

ASRock Size Şunu Hatırlatır...
Windows® 8 / 8 64-bit / 7 / 7 64-bit ile daha iyi performans elde etmek için, Depolama Konfigürasyonundaki BIOS seçeneğini AHCI moduna ayarlamanız tavsiye edilir. BIOS ayarı için, ayrıntıları öğrenmek üzere lütfen destek CD'mizdeki "Kullanıcı Kılavuzu"na bakın.

1.2 Özellikler

Platform	- Mikro ATX Form Faktörü - Tam Katı Bağlayıcı tasarımı
A-Stili	- Ev Bulutu
CPU	- Yuva FM2+ 95W / FM2 100W işlemciler için destek - 4 + 2 Güç Fazı Tasarımı
Yonga seti	- AMD A88X (Bolton-D4)
Bellek	- Çift Kanallı DDR3 Belleği Teknolojisi - 4 x DDR3 DIMM yuva - DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/ 1066/800 ECC olmayan, ara belleksiz bellek * DDR3 2600+ yalnızca iki DIMM ile desteklenir. - Sistem belleğinin maks. kapasitesi: 64 GB - Intel® Extreme Bellek Profilini (XMP)1.3/1.2 destekler - AMD Bellek Profilini (AMP) destekler
Genişletme Yuvası	- 1 x PCI Express 3.0 x16 yuva (PCIE1: x16 modu) * PCIE 3.0 yalnızca FM2+ İşlemci ile desteklenir. FM2 İşlemciyle, yalnızca PCIE 2.0 destekler. - 1 x PCI Express 2.0 x16 yuva (PCIE3: x4 modu) - 1 x PCI Express 2.0 x1 yuva - 1 x PCI yuva - AMD Quad CrossFireX™, CrossFireX™ ve Dual Graphics'i destekler
Grafikler	- A serisi APU'da tümleşik AMD Radeon HD 8000/7000 serisi grafikler - FM2+ İşlemciyle DirectX 11.1, Pixel Shader 5.0. FM2 İşlemciyle DirectX 11, Pixel Shader 5.0. - Maks. paylaюэlan bellek 2GB - Ьз VGA Зэкэю seэenepi: D-Sub, DVI-D ve HDMI - Üçlü Monitör Desteği - 60Hz'de 1920x1200'e kadar maks. зцzьnьrlьkle HDMI Teknolojisini destekler - 60Hz'de 2560x1600'e kadar maks. зцzьnьrlьkle Dual-link DVI-D'yэ destekler - 60Hz'de 1920x1600'ya kadar maks. зцzьnьrlьkle D-Sub'э destekler - Auto Lip Sync, Deep Color (12bpc), HDMI ile xvYCC ve HBR'yi (Yьksek Bit Hэzlэ Ses) destekler (Uyumlu HDMI monitцr gerekir) - HDMI bulunan Blu-Ray stereoskopik 3D'yi desteklemektedir

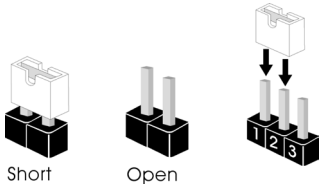
	- AMD Steady Video™ 2.0'yu destekler: Ev/çevrimiçi videoda otomatik titreşim azaltma için yeni video işleme sonrası özelliği - DVI-D ve HDMI portlarəyla HDCP ıюlevini destekler - DVI-D ve HDMI portlarəyla Tam HD 1080p Blu-ray (BD) oynatəmənə destekler
Ses	- İçerik Koruma Özelliği ile 7.1 CH HD Ses (Realtek ALC892 Ses Codec Bileşeni) - Üstün Blu-ray ses desteği
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Qualcomm® Atheros® Güvenli İnternet Açışı Teknolojisini destekler - LAN Açılışını Destekler - Enerji Verimliliğine Sahip Ethernet 802.3az işlevini destekler - PXE özelliğini destekler
Arka Panel G/3	G/3 Paneli - 1 x PS/2 Fare/Klavye Portu - 1 x D-Sub Portu - 1 x DVI-D Portu - 1 x HDMI Portu - 1 x Optik SPDIF Çıkışı Portu - 4 x Kullanıma Hazır USB 2.0 Portu - 2 x Kullanıma Hazır USB 3.0 Portu (AMD A88X (Bolton-D4)) - 1 x RJ-45 LAN Portu, LED'li (AKT/LƏNK LED'i ve HIZ LED) - HD Ses Jakı: Arka Hoparlör/Orta/Bas/Hat Girişi/Ön Hoparlör/ Mikrofon
Depolama	- 8 x SATA3 6,0Gb/sn konektör, donanım RAID (RAID 0, RAID 1, RAID 5 ve RAID 10), NCQ, AHCI ve "Sistem Aзəkken Bileюen Takma" işlevlerini
Konektör	- 1 x KÖ fişi - 1 x Yazdərma Portu fiюi - 1 x COM portu fişi - 1 x Kasaya Yetkisiz Erişim fişi - 1 x TPM bağlantısı - 1 x Güç LED'i fişi - 2 x CPU FAN konektörü (1 x 4 pin, 1 x 3 pin) - 1 x Kasa FAN konektörü (4 pin) - 1 x Gьз FAN konektörü (3 pin) - 1 x 24 pin ATX güç konektörü - 1 x 8 pin 12V güç konektörü - 1 x Ön panel ses konektörü

	- 3 x USB 2.0 fiş (6 USB 2.0 portu destekler) - 1 x AMD A88X (Bolton-D4) ile USB 3.0 bağlantısı (2 USB 3.0 portu destekler)
BIOS Özelliği	- Çok dilli GUI desteğiyle 64Mb AMI UEFI Legal BIOS - GUI destekli AMI UEFI Geçerli BIOS - "Tak Çalıştır"ı destekler - ACPI 1.1 Uyumlu Uyandırma Olayları - Jumpersız ayarlamayı destekler - AMBIOS 2.3.1 Desteği - DRAM ve CPU Voltaj Çoklu ayarı
Destek CD'si	- Sürücüler, Yardımcı Programlar, AntiVirüs Yazılımı (Deneme Sürümü), CyberLink MediaEspresso 6.5 Deneme Sürümü, Google Chrome Browser ve Toolbar, Start8 (30 günlük deneme)
Donanım Monitör	- CPU Sıcaklık Duyarlılığı - Kasa Sıcaklık Duyarlılığı - CPU Fan Takometresi - Kasa Fan Takometresi - CPU/Kasa Sessiz Fanı - CPU/Kasa Fan Çoklu-Hız Kontrolü - KASA AÇIK algılaması - Voltaj İzleme: +12V, +5V, +3,3V, CPU Vcore
İS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
Sertifikalar	- FCC, CE, WHQL - ErP/EuP Hazır (ErP/EuP hazır güç kaynağı gerekli)

* Ayrıntılı ürün bilgileri için lütfen web sitemizi ziyaret edin: http://www.asrock.com

1.3 Jumper'ların Ayarı

Şekilde jumper'ların nasıl ayarlandıkları gösterilmektedir. Jumper kapağı pinler üzerine yerleştirildiğinde jumper "Kapalı" dır. Jumper kapağı pinler üzerindeyken jumper "Açık" tır. Şekilde pin1 ve pin2'si "Kapalı" olan jumper kapağı bu 2 pine yerleştirilmiş 3-pinli jumper gösterilmektedir.



Jumper	Ayar
CMOS'u temizleme (CLRCMOS1, 3-pinli jumper) (bkz. S.2 No. 9)	1_2 Default 2_3 Clear CMOS

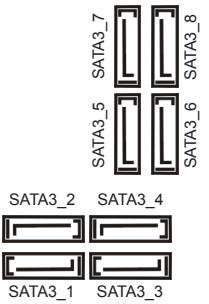
Not: CLRCMOS1, CMOS'daki verilerinizi temizlemenize olanak sağlar. Sistem parametrelerini temizlemek ve varsayılan ayara sıfırlamak için lütfen bilgisayarı kapatın ve güç kablosunun fişini güç kaynağından çekin. 15 saniye bekledikten sonra, pin2 ve pin3'ü CLRCMOS1'de 5 saniye kısaltmak için bir atlatıcı şapkası kullanın. Ancak, BIOS'u güncelledikten hemen sonra lütfen CMOS'u temizlemeyin. BIOS'u güncellemeyi tamamladığınızda CMOS'u temizlemeniz gerekirse, ilk olarak sistemi başlatmanız ve ardından CMOS temizleme işlemini gerçekleştirmeden önce kapatmanız gereklidir. Parola, tarih, saat, kullanıcı varsayılan profili, 1394 GUID ve MAC adresinin yalnızca CMOS pili çıkarıldığında temizleneceğini lütfen aklınızda bulundurunuz.

CMOS'u temizlerseniz, kasa açma algılanabilir. Lütfen "Temizleme Durumu" BIOS seçeneğini önceki kasaya yetkisiz erişim durumunun kaydı için ayarlayın.

1.4 Yerleşik Fişler ve Konektörler

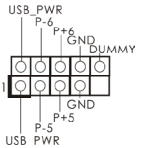
Yerleşik fişler ve konektörler jumper DEĞİLDİR. Bu fişlerin ve konektörlerin üzerine jumper kapakları YERLEŞTİRMEYİN. Fişlerin ve konektörlerin üzerine jumper kapakları yerleştirmek anakartın kalıcı olarak zarar görmesine neden olabilir!

Seri ATA3 Konektörler
(SATA3_1: bkz. S.2, No. 16)
(SATA3_2: bkz. S.2, No. 17)
(SATA3_3: bkz. S.2, No. 15)
(SATA3_4: bkz. S.2, No. 14)
(SATA3_5: bkz. S.2, No. 13)
(SATA3_6: bkz. S.2, No. 12)
(SATA3_7: bkz. S.2, No. 10)
(SATA3_8: bkz. S.2, No. 11)

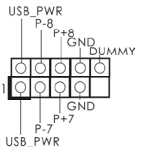


Bu sekiz Seri ATA3 (SATA3) konektör, dahili depolama cihazları için SATA veri kablolarını destekler. Geçerli SATA3 arayüzü 6,0 Gb/sn veri aktarım hızına izin verir.

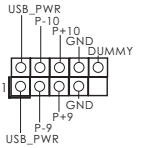
USB 2.0 Fişleri
(9-pinli USB_5_6)
(bkz. S.2 No. 21)



(9-pinli USB_7_8)
(bkz. S.2 No. 22)

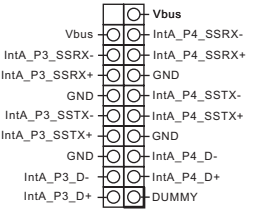


(9-pinli USB_9_10)
(bkz. S.2 No. 23)



G/Ç panelindeki varsayılan dört USB 2.0 portundan başka, bu anakartta üç USB 2.0 fişi bulunur. Her USB 2.0 fişi iki USB 2.0 portunu destekler.

USB 3.0 Fişleri
(19-pinli USB3_3_4)
(bkz. S.2 No. 8)

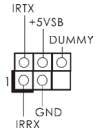


I/O panelinde bulunan iki adet varsayılan USB 3.0 bağlantı noktasının yanı sıra, bu ana kart üzerinde bir adet USB 3.0 bağlantısı bulunur. Bu USB 3.0 bağlantısı iki adet USB 3.0 bağlantı noktasını destekleyebilir.

Kızılötesi Modülü Fişi

(5-pinli IR1)

(bkz. S.2 No. 27)

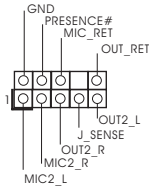


Bu fiş, isteğe bağlı bir kablosuz aktarma ve alma kızılötesi modülünü destekler.

Ön Panel Ses Fişi

(9-pinli HD_AUDIO1)

(bkz. S.2 No. 28)



Bu, panel ses kablosu için uygun bağlantı sağlayan ve ses cihazlarını kontrol etmeyi sağlayan bir arayüzdür.

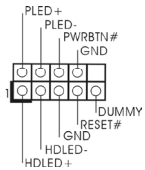
1. Yükse Tanımlı Ses Jak Duyarlılığını destekler, ancak kasadaki panel kablosunun HDA'nın düzgün çalışmasını desteklemesi gerekir. Lütfen sisteminizi yüklemek için kılavuzumuzdaki ve kasa kılavuzundaki talimatları izleyin.
2. AC'97 ses paneli kullanıyorsanız, lütfen ön panel ses fişine aşağıdaki gibi takın:

   A. Mic_IN'i (MIC) MIC2_L'ye bağlayın.
   B. Audio_R'yi (RIN) OUT2_R'ye ve Audio_L'yi (LIN) OUT2_L'ye bağlayın.
   C. Ground'u (GND) Ground'a (GND) bağlayın.
   D. MIC_RET ve OUT_RET yalnızca HD ses paneli içindir. Bunları AC'97 ses paneli için bağlamanız gerekmez.
   E. Ön mikrofonu etkinleştirmek için
      Windows® 8 / 8 64-bit / 7 / 7 64-bit İS için:
      Realtek Kontrol panelinde "Ön Mikrofon" Sekmesine gidin. "Kayıt Ses Seviyesi"ni ayarlayın.

Sistem Paneli Fişi

(9-pinli PANEL1)

(bkz. S.2 No. 18)



Bu fiş, birçok sistem ön paneli işlevini barındırır.

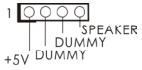
Kasa üzerindeki güç anahtarını, sıfırlama anahtarını ve sistem durumu göstergesini aşağıdaki pin atamalarına göre bu bağlantıya bağlayın. Kabloları bağlamadan önce pozitif ve negatif pinlere dikkat edin.

PWRBTN (Güç Anahtarı):
Kasa üzerindeki güç anahtarını ön panele bağlayın. Güç anahtarını kullanarak sisteminizi kapatma şeklinizi yapılandırabilirsiniz.
RESET (Sıfırlama Anahtarı):
Kasa üzerindeki sıfırlama anahtarını ön panele bağlayın. Bilgisayar donarsa veya normal bir yeniden başlatma gerçekleştirilemezse, bilgisayarı yeniden başlatmak için sıfırlama anahtarına basın.

PLED (Sistem Gücü LED'i):
Kasa üzerindeki güç durumu göstergesini ön panele bağlayın. Sistem çalışırken LED yanar. Sistem S1 uyku modunda iken LED yanıp sön meye devam eder. Sistem S3/S4 uyku modunda veya kapalı (S5) iken LED söner.
HDLED (Sabit Disk Çalışma LED'i):
Kasa üzerindeki sabit disk çalışma LED'ini ön panele bağlayın. Sabit disk veri okurken veya yazarken LED yanar.

Ön panel tasarımı kasaya göre değişiklik gösterebilir. Ön panel modülünde temel olarak güç anahtarı, sıfırlama anahtarı, güç LED'i, sabit disk çalışma LED'i, hoparlör vb. bulunur. Kasa ön panel modülünüzü bu bağlantıya bağlarken, kablo atamalarının ve pin atamalarının doğru biçimde eşleştirildiğinden emin olun.

Kasa Hoparlörü Fişi
(4-pinli SPEAKER1)
(bkz. S.2 No. 20)

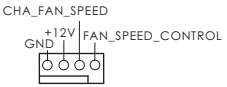


Lütfen kasa hoparlörünü bu fişe bağlayın.

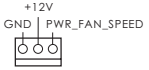
Güç LED'i Fişi
(3-pinli PLED1)
(bkz. S.2 No. 19)

Sistem gücü durumunu belirtmek için lütfen kasa güç LED'ini bu fişe bağlayın. Sistem çalışırken LED açıktır. LED S1 durumunda yanıp sönmeye devam eder. LED S3/S4 durumunda veya S5 durumun da (güç kapalı) kapalıdır.

Kasa/güç Fan Konektörü
(4-pinli CHA_FAN1)
(bkz. S.2 No. 30)

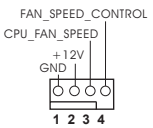


(3-pinli PWR_FAN1)
(bkz. S.2 No. 1)



Lütfen kasa fan kablolarını fanına bu konektöre bağlayın ve siyah kabloyu toprak pinine bağlayın.

CPU Fan Konektörü
(4-pinli CPU_FAN1)
(bkz. S.2 No. 3)



Lütfen fan kablolarını CPU fanına bu konektöre bağlayın ve siyah kabloyu toprak pinine bağlayın.

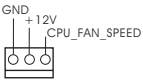
Türkçe

Bu anakart 4-Pinli CPU fan (Sessiz Fan) desteği sağlasa da, 3-Pinli CPU fan hızı kontrol işlevi olmadan bile hala başarılı bir şekilde çalışabilir. 3-Pinli CPU fanı bu konektördeki CPU fan konektörüne bağlamayı planlıyorsanız, lütfen Pin 1-3'e bağlayın.

Pin 1-3 Bağlı ←

3-Pinli Fanı Takma

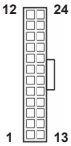
(3-pinli CPU_FAN2)
(bkz. S.2 No. 4)



ATX Güç Konektörü

(24-pinli ATXPWR1)

(bkz. S.2 No. 7)



Lütfen bir ATX güç kaynağını bu konektöre bağlayın.

Bu anakart 24-pinli ATX güç konektörü sağlasa da geleneksel bir 20-pinli ATX güç kaynağı bağlarsanız da çalışabilir. 20-pinli ATX güç kaynağını kullanmak için, lütfen güç kaynağınızı Pin 1 ve Pin 13'le birlikte takın.

20-Pinli ATX Güç Kaynağını Takma

ATX 12V Güç Konektörü

(8-pinli ATX12V1)

(bkz. S.2 No. 2)

Lütfen bir ATX 12V güç kaynağını bu konektöre bağlayın.

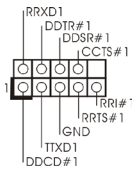
Bu anakart 8-pinli ATX 12V güç konektörü sağlasa da geleneksel bir 4-pinli ATX 12V güç kaynağı bağlarsanız da çalışabilir. 4-pinli ATX güç kaynağını kullanmak için, lütfen güç kaynağınızı Pin 1 ve Pin 5'le birlikte takın.

4-Pinli ATX 12V Güç Kaynağını Takma

Seri port Fişi

(9-pinli COM1)

(bkz. S.2 No. 26)



Bu COM1 fişi bir seri port modülünü destekler.

Kasaya Yetkisiz Erişim Fişi

(2-pinli CI1)

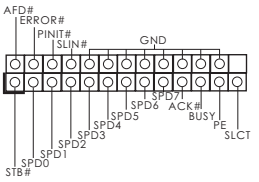
(bkz. S.2 No. 29)

Bu anakart, kasa kapağının çıkarılıp çıkarılmadığını algılayan KASA AÇIK algılama özelliğini destekler. Bu özellik, kasaya yetkisiz erişim tasarımına sahip bir kasa gerektirir.

Yazdırma Portu Fişi

(25-pinli LPT1)

(bkz. s.2 No. 25)

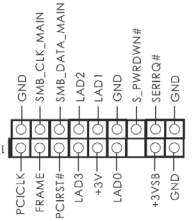


Bu, yazdırma portu kablosu için yazıcı cihazlarının uygun bağlanmasını sağlayan bir arayüzdür.

TPM Bağlantısı

(17-pinli TPMS1)

(bkz. s.2 No. 24)



Bu bağlayıcı, anahtarlar, dijital sertifikalar, parolalar ve verileri güvenli bir şekilde saklama özelliği bulunan Güvenilir Platform Modülü (TPM) sistemini destekler. TPM sistemleri, aynı zamanda ağ güvenliğinin artırılması, dijital kimliklerin korunması ve platform bütünlüğünün sağlanmasına da yardımcıdır.

2. BIOS Bilgileri

Anakarttaki Flash Bellek BIOS Ayarları Yardımcı Programını içerir. Bilgisayarı başlattığınızda, lütfen Otomatik Güç Sınaması (POST) sırasında BIOS Ayarları yardımcı programına girmek için <F2> veya <Del> tuşuna basın; aksi halde, POST test rutinlerine devam eder. BIOS Ayarlarına POST'tan sonra girmek istiyorsanız, lütfen <Ctl> + <Alt> + <Delete> tuşlarına basarak veya sistem kasasındaki sıfırlama düğmesine basarak sistemi yeniden başlatın. BIOS Ayarları programı kullanıcı dostu olacak şekilde tasarlanmıştır. Çeşitli alt menüler arasında dolaşmanıza ve önceden belirlenen seçenekler arasından seçim yapmanıza izin veren menü tabanlı bir programdır. BIOS Ayarları hakkında ayrıntılı bilgi için, lütfen Destek CD'sinde bulunan Kullanıcı Kılavuzu'na (PDF dosyası) başvurun.

3. Yazılım Destek CD’si bilgileri

Bu anakart çeşitli Microsoft® Windows® işletim sistemleri destekler: 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit. Anakartla birlikte gelen Destek CD'si anakart özelliklerini genişleten gerekli sürücüleri ve kullanışlı yardımcı programları içerir. Destek CD'sini kullanmaya başlamak için, CD'yi CDROM sürücünüze takın. Bilgisayarınızda "OTOMATİK KULLAN" özelliği etkinleştirilmişse, Ana Menüyü otomatik olarak görüntüler. Ana Menü otomatik olarak görüntülenmezse, menüleri görüntülemek için Destek CD'sinin “BIN” klasöründeki "ASRSETUP.EXE" dosyasını bulun ve çift tıklatın.

1. 제품소개

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메인보드의 사양이나 바이오스가 업 데이트 되기 때문에 이 사용자 설명서의 내용은 예고 없이 변경되거나 바뀔 수가 있습니다 . 만일을 생각해서 이 사용자 설명서의 어떤 변경이 있으면 ASRock 의 웹 사이트에서 언제든지 업 데이트를 하실 수 있습니다 . 웹사이트에서 최신 VGA 카드와 CPU 지원 목록을 확인할 수 있습니다 . ASRock 의 웹사이트 주소는 http://www.asrock.com 입니다 . 본 머더보드와 관련하여 기술 지원이 필요한 경우 당사 웹 사이트를 방문하여 사용 중인 모델에 대한 특정 정보를 얻으십시오 . www.asrock.com/support/index.asp

1.1 패키지 내용

ASRock ***FM2A88M Extreme4+*** 마더보드 (Micro ATX 폼 팩터)
ASRock ***FM2A88M Extreme4+*** 퀵 설치 가이드
ASRock ***FM2A88M Extreme4+*** 지원 CD
시리얼 ATA (SATA) 데이터 케이블 2 개 (선택 사양)
I/O 차폐 1 개

ASRock은사용자에게 알립니다...
Windows®8 / 8 64-비트 / 7 / 7 64-비트 의 성능을 향상시키기 위해서 Storage Configuration(스토리지 구성)에서 BIOS 옵션을 AHCI 모드로 설정하는 것이 좋습니다. BIOS 설정과 관련하여 자세한 내용은 지원 CD 에 포함된 “사용 설명서” 를 참조하십시오.

한국어

1.2 설명서

플랫폼	- Micro ATX 폼 팩터 - 모든 솔리드 콘덴서 구조
A- 스타일	- 홈 클라우드
CPU	- 소켓 FM2+ 95W / FM2 100W 프로세서에 대한 지원 - 4 + 2 전원 위상 디자인
칩셋	- AMD A88X (Bolton-D4)
메모리	- 듀얼 채널 메모리 기술 지원 - DDR3 DIMM 슬롯 4 개 - DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066 /800 비 -ECC, 언버퍼드 메모리를 지원 * DDR3 2600+ 는 2 개의 DIMM 에서만 지원됩니다 . - 최대 시스템 메모리 용량 : 64GB - Intel® 익스트림 메모리 프로파일 (XMP)1.3/1.2 지원 - AMD 메모리 프로파일 (AMP) 지원
확장 슬롯	- 1 x PCI Express 3.0 x16 슬롯 (PCIE1: x16 모드) * PCIE 3.0 은 FM2+ CPU 에서만 지원됩니다 . FM2 CPU 의 경우 PCIE 2.0 만 지원합니다 . - 1 x PCI Express 2.0 x16 슬롯 (PCIE3: x4 모드) - 1 개의 PCI Express 2.0 x1 슬롯 - 1 개의 PCI 슬롯 - AMD Quad CrossFireX™, CrossFireX™ 및 듀얼 그래픽 지원
온보드 VGA	- A 시리즈 APU 에 통합된 AMD Radeon HD 8000/7000 시리즈 그래픽 - FM2+ CPU 의 경우 DirectX 11.1, Pixel Shader 5.0 탑재 . - FM2 CPU 의 경우 DirectX 11, Pixel Shader 5.0 탑재 . - 최대 공유 메모리 2GB - 3 개의 VGA 출력 옵션 : D-Sub, DVI-D 및 HDMI - 삼중 모니터 지원 - 최대 해상도 1920x1200 @ 60Hz 까지 HDMI 지원 - 최대 해상도 2560x1600 @ 60Hz 까지 Dual-link DVI-D 지원 - 최대 해상도 1920x1200 @ 60Hz 까지 D-Sub 지원 - 자동 립 싱크 (Auto Lip Sync), 딥 컬러 (Deep Color)(12bpc), xvYCC, HBR(고비트율 오디오), HDMI 지원 (HDMI 호환 모니터 필요) - HDMI 로 블루레이 스테레오스코픽 3D 를 지원합니다 - AMD Steady Video™ 2.0 지원 : 홈 / 온라인 비디오의 자동 떨림감소를 위한 새로운 비디오 포스트 프로세싱 능력 - DVI-D 및 HDMI 포트를 이용한 HDCP 기능 지원 - DVI-D 및 HDMI 포트를 이용한 1080p Blu-ray (BD) 지원

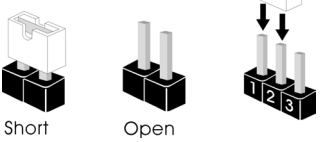
오디오	- 콘텐츠 보호를 이용한 7.1 CH HD 오디오 지원 (Realtek ALC892 오디오 코덱) - 프리미엄 Blu-ray 오디오 지원
랜	- PCIE 1 개 , Gigabit LAN 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Qualcomm® Atheros® 보안 웨이크 온 인터넷 기술 지원 - Wake-On-LAN 지원 - 절전형 이더넷 802.3az 지원 - PXE 지원
후면판 I/O	I/O Panel - 1 개 PS/2 마우스 / 키보드 포트 - 1 개의 D-Sub 포트 - 1 개의 DVI-D 포트 - 1 개의 HDMI 포트 - 1 개광학 SPDIF 출력 포트 - 4 개디폴트 USB 2.0 포트 - 2 개디폴트 USB 3.0 포트 (AMD A88X (Bolton-D4)) - 1 개 LED(ACT/LINK LED 및 SPEED LED) 가 있는 RJ-45 LAN 포트 - 오디오 잭 : 후방 스피커 / 중앙 / 저음 / 라인 인 / 전방 스피커 / 마이크
저장 장치	- 8 개 의 SATA3 6.0Gb/s 커넥터 , RAID (RAID 0, RAID 1, RAID 5 및 RAID 10), NCQ, AHCI 및 “ 핫 플러그 ” 기능 지원
온보드 헤더 및 커넥터	- 적외선 모듈 헤더 1 개 - 프린트 포트 헤더 1 개 - COM 포트 헤더 1 개 - 섀시 침입 헤더 1 개 - TPM 헤더 1 개 - 전원 LED 헤더 1 개 - CPU 팬 커넥터 2 개 (4 핀 1 개 , 3 핀 1 개) - 섀시 팬 커넥터 1 개 (4 핀) - 전원 팬 커넥터 1 개 (3 핀) - 24 핀 ATX 전원 헤더 1 개 - 8 핀 ATX 12V 파워 콘넥터 1 개 - 전면부 오디오 콘넥터 1 개 - USB 2.0 헤더 3 개 (USB 2.0 포트 6 개 지원) - AMD A88X (Bolton-D4) 의 USB 3.0 헤더 1 개 (USB 3.0 포트 2 개 지원)
BIOS	- 다국어 GUI 지원 64Mb AMI UEFI Legal BIOS - “플러그 앤 플레이” 지원 - ACPI 1.1 웨이크 - 업 이벤트와의 호환

	- 점퍼 프리 지원 - 점퍼 프리 지원 ; SMBIOS 2.3.1 지원 - DRAM 및 CPU 전압 멀티조절
지원 CD	- 드라이버 , 유틸리티 , 안티바이러스 소프트웨어 (시험판), CyberLink MediaEspresso 6.5 평가판 , Google Chrome Browser 및 Toolbar, Start8 (30 일 시험판)
하드웨어 모니터	- CPU 온도 감지 - 섀시 온도 감지 - CPU 팬 회전속도계 - 섀시 팬 회전속도계 - CPU/ 섀시 저소음 팬 - CPU/ 섀시 팬 다중 속도 제어 - 케이스 열림 감지 - 전압 감시 기능 : +12V,+5V,+3.3V,Vcore
OS	- 마이크로 소프트 Windows® 8.1 32 비트 /8.1 64 비트 /8 32 비트 /8 64 비트 /7 32 비트 /7 64 비트
인증서	- FCC, CE, WHQL - ErP/EuP 지원 (ErP/EuP 지원 전원 공급기가 요구됨)

* 상세한 제품정보는 당사의 웹사이트를 방문할수있습니다 . http://www.asrock.com

1.3 점퍼 셋팅

그림은 점퍼를 어떻게 셋업 하는지를 보여줍니다 . 점퍼 캡이 핀 위에 있을 때 , 점퍼는 " 쇼트 " 입니다 . 점퍼 캡이 핀 위에 없을 때 점퍼는 " 오픈 " 입니다 . 그림은 3 개의 핀 중 1-2 번 핀이 " 쇼트 " 임을 보여주는 것이며 , 점퍼 캡이 이 두 핀 위에 있음을 보여주는 것입니다 .



점퍼	세팅

CMOS 초기화
(CLRCMOS1, 3 핀 점퍼)
(2 페이지 , 9 번 항목 참조)

기본 설정 CMOS 삭제

참고 : CLRCMOS1 을 사용하여 CMOS 에 들어 있는 데이터를 삭제할 수 있습니다 . 시스템 매개변수를 삭제하고 기본 설정으로 복원하려면 , 컴퓨터를 끄고 전원 공급장치에서 플러그를 뽑으십시오 . 15 초를 기다린 다음 점퍼 캡을 사용하여 CLRCMOS1 의 핀 2 와 핀 3 을 5 초 동안 단락하십시오 . 그러나 BIOS 업데이트 직후에는 CMOS 를 삭제하지 마십시오 . BIOS 를 업데이트하자마자 CMOS 를 삭제해야 하는 경우 먼저 시스템을 부팅하고 CMOS 를 종료하고 삭제 작업을 해야 합니다 . CMOS 배터리를 제거할 경우에만 암호 , 날짜 , 시간 , 사용자 기본 프로파일 , 1394 GUID, MAC 주소가 삭제됩니다 .

CMOS를 지울 경우 케이스 열림이 감지됩니다. BIOS 옵션 Clear Status (상태지우기) 를 조정해 이전의 섀시 침입 상태에 대한 기록을 지우십시오.

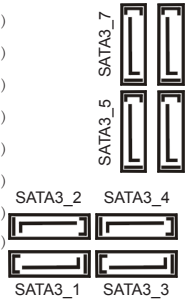
한국어

1.4 온보드 헤더 및 커넥터

주의 !
이 콘넥터는 점퍼가 아닙니다 . 이 콘넥터 위에 점퍼 캡을 사용하지마세요 . 커넥터에 점퍼 캡을 설치하면 마더보드가 영구적으로 손상됩니다 !

시리얼 ATA3 커넥터

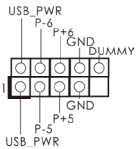
(SATA3_1: 2 페이지 , 16 번 항목 참조)
(SATA3_2: 2 페이지 , 17 번 항목 참조)
(SATA3_3: 2 페이지 , 15 번 항목 참조)
(SATA3_4: 2 페이지 , 14 번 항목 참조)
(SATA3_5: 2 페이지 , 13 번 항목 참조)
(SATA3_6: 2 페이지 , 12 번 항목 참조)
(SATA3_7: 2 페이지 , 10 번 항목 참조)
(SATA3_8: 2 페이지 , 11 번 항목 참조)



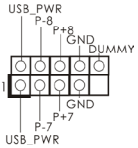
8 개의 시리얼 ATA3 (SATA3) 커넥터는 내부 저장 장치용 SATA 데이터 케이블을 지원합니다 . 커넥터가 내부 기억 장치용 SATA 케이블을 지원합니다 . 현재의 SATA3 인터페이스는 최고 6.0 Gb/s 의 데이터 전송 속도를지원합니다 .

USB 2.0 헤더

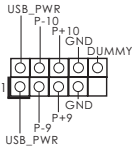
(9 핀 USB_5_6)
(2 페이지 , 21 번 항목 참조)



(9 핀 USB_7_8)
(2 페이지 , 22 번 항목 참조)



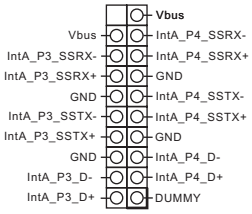
(9 핀 USB_9_10)
(2 페이지 , 23 번 항목 참조)



본 머더보드에는 I/O 패널에 있는 4 개의 기본 USB 2.0 포트 외에도 USB 2.0 헤더가 3 개 있습니다 . 각각의 USB 2.0 헤더는 2 개의 USB 2.0 포트를 지원할 수 있습니다 .

USB 3.0 헤더

(19 핀 USB3_3_4)
(2 페이지 , 8 번 항목 참조)



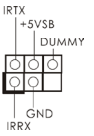
I/O 패널에 있는 2 개의 기본적 USB 3.0 포트 이외에도 마더보드에 1 개의 USB 3.0 헤더가 있습니다 . 이 USB 3.0 헤더는 2 개의 USB 3.0 포트를 지원할 수 있습니다 .

한국어

적외선 모듈 헤더

(5 핀 IR1)

(2 페이지 , 27 번 항목 참조)

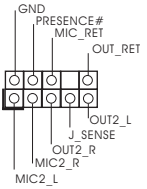


이 헤더는 선택품목인 무선 적외선 송수신 모듈을 지원합니다 .

전면부 오디오 콘넥터

(9 핀 HD_AUDIO1)

(2 페이지 , 28 번 항목 참조)



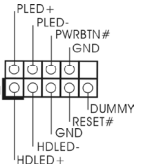
이 콘넥터는 오디오 장치를 편리하게 조절하고 연결할 수 있는 전면 오디오 인터페이스 입니다 .

1. High Definition Audio(고음질 오디오) 는 잭 센스 기능을 지원하나 , 제대로작동하려 면 섀시의 패널 와이어가 HAD 를 지원해야 합니다 . 이 설명서 및 섀시 설명서의지침 을 따라 시스템을 설치하십시오 .
2. AC’97 오디오 패널을 사용하는 경우 , 이를 아래와 같이 프런트 패널의 오디오헤 더에 설치하십시 오 .
   - A. Mic_IN (MIC) 을 MIC2_L 에 연결합니다 .
   - B. Audio_R (RIN) 을 OUT2_R 에 연결하고 , Audio_L (LIN) 을 OUT2_L 에 연결합 니다 .
   - C. Ground (GND) 을 Ground (GND) 에 연결합니다 .
   - D. MIC_RET 및 OUT_RET 는 HD 오디오 패널 전용입니다 . 이들을 AC’97 오디오 패널에 연결 하지 않아도 됩니다 .
   - E. 앞면 마이크 작동 .
     Windows® 8 / 8 64 비트 / 7 / 7 64 비트 OS 의 경우 :
     Realtek 제어판에서 “FrontMic” (앞면 마이크) 로 가서 “Recording Volume” (리코딩 볼륨) 을 조정합니다 .

시스템 콘넥터

(9 핀 PANEL1)

(2 페이지 , 18 번 항목 참조)



이 콘넥터는 시스템 전면 패널기능을 지원하기 위한 것입니다 .

섀시의 전원 스위치 , 리셋 스위치 , 시스템 상태 표시등을 아래의 핀 할당에 따라 이헤더에 연결합니다 . 케이블을 연결하기 전에 양극 핀과 음극 핀을 기록합니다 .

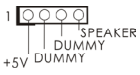
PWRBTN(전원 스위치):
섀시 전면 패널의 전원 스위치에 연결합니다 . 전원 스위치를 이용해 시스템을 끄는방법을 구성할 수 있습니다 .

한국어

RESET(리셋 스위치):
섀시 전면 패널의 리셋 스위치에 연결합니다 . 컴퓨터가 정지하고 정상적 재시작을수행하지 못할 경우 리셋 스위치를 눌러 컴퓨터를 재시작합니다 .
PLED(시스템 전원 LED):
섀시 전면 패널의 전원 상태 표시등에 연결합니다 . 시스템이 작동하고 있을 때는 LED 가 켜져 있습니다 . 시스템이 S1 대기 상태에 있을 때는 LED 가 계속 깜박입니다 . 시스템이 S3/S4 대기 상태 또는 전원 꺼짐 (S5) 상태에 있을 때는 LED 가 꺼져 있습니다 .
HDLED(하드 드라이브 동작 LED):
섀시 전면 패널의 하드 드라이브 동작 LED 에 연결합니다 . 하드 드라이브가 데이터를 읽거나 쓰고 있을 때 LED 가 켜져 있습니다 .

전면 패널 디자인은 섀시별로 다를 수 있습니다 . 전면 패널 모듈은 주로 전원 스위치 , 리셋 스위치 , 전원 LED, 하드 드라이브 동작 LED, 스피커 등으로 구성되어 있습니다 . 섀시 전면 패널 모듈을 이 헤더에 연결할 때 와이어 할당과 핀 할당이 정확히 일치하는지 확인합니다 .

섀시 스피커 헤더
(4 핀 SPEAKER 1)
(2 페이지 , 20 번 항목 참조)

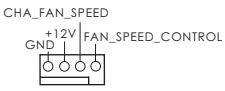


섀시 스피커를 이 헤더에 연결하십시오 .

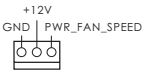
전원 LED 헤더
핀 PLED1)
(2 페이지 , 19 번 항목 참조)

시스템 전원 상태를 표시하려 (3 면 섀시 전원 LED 를 헤더에 연결하십시오 . 시스템 작동 중에는 LED 에 전원이 켜져 있습니다 . S1 상태에서는 LED 가 계속 깜박입니다 . S3/S4 상태 또는 S5 상태에서는 LED 가 꺼집니다 (전원 꺼짐).

섀시 및 전원 팬 커넥터
(4 핀 CHA_FAN1)
(2 페이지 , 30 번 항목 참조)



(3 핀 PWR_FAN1)
(2 페이지 , 1 번 항목 참조)

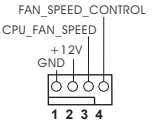


팬 케이블을 팬 커넥터에 연결하고 접지 핀에는 검은색 전선을 연결하십시오 .

CPU 팬 커넥터

(4 핀 CPU_FAN1)

(2 페이지 , 3 번 항목 참조)



CPU 팬 케이블을 이 커넥터에 연결하고 흑색 선을 접지 핀에 맞추십시오 .

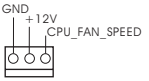
본 머더보드가 4 핀 CPU 팬 (저소음 팬) 지원을 제공하기는 하지만 팬 속도 제어기능없이도 3 핀 CPU 팬을 성공적으로 작동할 수 있습니다 . 본 머더보드의 CPU 팬 커넥터에 3 핀 CPU 팬을 연결하려면 1-3 번 핀에 연결하십시오 .

1-3 번 핀에 연결됨

3 핀 팬 설치

(3 핀 CPU_FAN2)

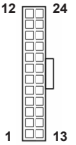
(2 페이지 , 4 번 항목 참조)



ATX 전원 헤더

(24 핀 ATXPWR1)

(2 페이지 , 7 번 항목 참조)



ATX 전원 공급기를 이 헤더에 연결하십시오 .

이 마더보드는 24 핀 ATX 전원 커넥터를 제공하지만 , 종래의 20 핀 ATX 전원 공급장치를 사용해도 작동이 가능합니다 . 20 핀 ATX 전원 공급장치를 사용하려면 , Pin 1 과 Pin 13 으로 전원공급장치를 연결하십시오 .

20 핀 ATX 전원 공급장치 설치

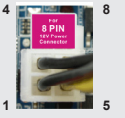
ATX 12V 파워 콘넥터

(8 핀 ATX12V1)

(2 페이지 , 2 번 항목 참조)

ATX 12V 플러그가 달린 전원공급장치를 이 커넥터에 연결해야 충분한 전력을 공급할 수 있습니다 . 그러지 않을 경우 전원을 켤 수 없습니다 .

비록 본 마더보드는 8- 핀 ATX 12V 전원 연결기를 제공하지만 이것은 여전히작업할수있습니다 . 만약 전통적인 4- 핀 ATX 12V 전원공급을 채용하여 4- 핀 ATX 전력을 사용하는경우 , 반드시 전원 공급을 핀 1 과 핀 5 에전원공급을 삽입해야합니다 .

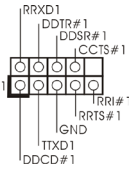


4- 핀 ATX 12V 전원공급장치

시리얼포트 컨넥터

(9 핀 COM1)

(2 페이지 , 26 번 항목 참조)



이 콘넥터는 시리얼 포트 모듈을 지원합니다 .

섀시 침입 헤더

(2 핀 CI1)

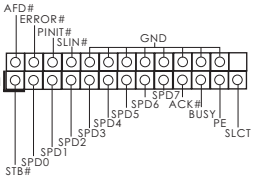
(2 페이지 , 29 번 항목 참조)

이 메인보드는 섀시 커버가 제거되면 이를 감지하는 케이스 열림 감지 기능을 지원합니다 . 이 기능은 섀시에 섀시 침입 감지 디자인이 있어야 가능합니다 .

프린트 포트 헤더

(25 핀 LPT1)

(2 페이지 , 25 번 항목 참조)

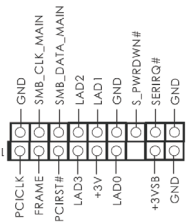


이것은 프린터 장치를 편리하게 연결할 수 있도록 해주는 프린트 포트 케이블용 인터페이스입니다 .

TPM 헤더

(17 핀 TPMS1)

(2 페이지 , 24 번 항목 참조)



이 커넥터는 키 , 디지털 인증서 , 암호 및 데이터를 안전하게 보관할 수 있는 TPM(Trusted Platform Module) 시스템을 지원합니다 . TPM 시스템은 네트워크 보안을 강화하고 , 디지털 신원을 보호하며 플랫폼 무결성을 유지합니다 .

2. 시스템 바이오스 정보

메인보드의 플래쉬 메모리에는 바이오스 셋업 유틸리티가 저장되어 있습니다 . 컴퓨터를 사용하실 때 , “자가진단 테스트” (POST) 가 실시되는 동안 <F2> 또는 <Del> 키를 눌러 바이오스 셋업으로 들어가세요 ; 만일 그렇게 하지 않으면 POST 는 테스트 루틴을 계속하여 실행할 것입니다 . 만일 POST 이후 바이오스 셋업을 하기 원하신다면 ,<Ctl>+<Alt>+<Delete> 키를 누르거나 , 또는 시스템 본체의 리셋 버튼을 눌러 시스템을 재 시작하여 주시기 바랍니다 . 바이오스 셋업 프로그램은 사용하기 편하도록 디자인되어 있습니다 . 각 항목은 다양한 서브 메뉴 표가 올라오며 미리 정해진 값 중에서 선택할 수 있도록 되어 있습니다 . 바이오스 셋업에 대한 보다 상세한 정보를 원하신다면 보조 CD 안의 포함된 사용자 매뉴얼 (PDF 파일) 을 따라 주시기 바랍니다 .

3. 소프트웨어 지원 CD 정보

이 메인보드는 여러 가지 마이크로소프트 윈도우 운영 체계를 지원합니다 : 8.1 32 비트 /8.1 64 비트 /8 32 비트 /8 64 비트 /7 32 비트 /7 64 비트 . 메인보드에 필요한 드라이버와 사용자 편의를 위해 제공되는 보조 CD 는 메인보드 의 기능을 향상시켜 줄 것입니다 . 보조 CD 를 사용하여 시작하시려면 , CD-ROM 드라이브에 CD 를 넣어주시기 바랍니다 . 만일 고객님의 컴퓨터가 “AUTORUN” 이 가능하다면 자동으로 메인 메뉴를 모니터에 디스플레이 시켜 줄 것입니다 . 만일 자동으로 메인 메뉴가 나타나지 않는다면 , 보조 CD 의 디스플레이 메뉴 안에 있는 BIN 폴더 ASRSETUP.EXE 파일을 더블 클릭하여 주시기 바랍니다 .
(D: \ BIN \ ASRSETUP.EXE, D: 는 CD-ROM 드라이브)

1、はじめに

ASRock ***FM2A88M Extreme4+*** マザーボードをお買い上げいただきありがとうございます。本製品は、弊社の厳しい品質管理の下で製作されたマザーボードです。本製品は、弊社の品質と耐久性の両立という目標に適合した堅牢な設計により優れた性能を実現します。このクイックインストレーションガイドには、マザーボードの説明および段階的に説明したインストレーションの手引きが含まれています。マザーボードに関するさらに詳しい情報は、「サポート CD」のユーザーマニュアルを参照してください。

マザーボードの仕様および BIOS ソフトウェアは、アップデートされることが有りますので、マニュアルの内容は、予告なしに変更されることがあります。本マニュアルに変更が有った場合は、弊社のウェブサイトに通告なしに最新版のマニュアルが掲載されます。最新の VGA カードおよび CPU サポートリストもウェブサイトでご覧になれます。ASRock 社ウェブサイト: http://www.asrock.com
このマザーボードに関連する技術サポートが必要な場合、当社の Web サイトにアクセスし、使用しているモデルについての特定情報を見つけてください。 www.asrock.com/support/index.asp

1.1 パッケージ内容

ASRock ***FM2A88M Extreme4+*** マザーボード (Micro ATX フォームファクター)
ASRock ***FM2A88M Extreme4+*** クイックインストレーションガイド
ASRock ***FM2A88M Extreme4+*** サポート CD
2 x シリアル ATA (SATA) データケーブル(オプション)
1 x I/O パネルシールド

ASRockからのお知らせ...
Windows® 8 / 8 64-bit / 7 / 7 64-bitでより良い性能を得るには、ストレージ構成のBIOSオプションをAHCIモードに設定することを推奨します。BIOSのセットアップについての詳細は、サポートCDの「ユーザーマニュアル」を参照してください。

1.2 仕様

プラットフ	- Micro ATX フォームファクター - オール固体コンデンサー設計
A スタイル	- Home Cloud
CPU	- Socket FM2+ 95W / FM2 100W プロセッサのサポート - 4 + 2 電源位相設計
エップセット	- AMD A88X (Bolton-D4)
メモリー	- デュアルエャンネル DDR3 メモリーテクノロジー - DDR3 DIMM スロット x 4 - DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066/800 non-ECC, un-buffered メモリーに対応 * DDR3 2600+ は 2 つの DIMM でのみサポートされます。 - システムメモリの最大容量 : 64GB - Intel® Extreme Memory Profile (XMP)1.3/1.2 をサポート - AMD Memory Profile (AMP) をサポート
拡張スロット	- 1 x PCI Express 3.0 x16 スロット (PCIE1: x16 モード) * PCIE 3.0 は FM2+ CPU でのみサポートされます。FM2 CPU では、PCIE 2.0 のみをサポートします。 - 1 x PCI Express 2.0 x16 スロット (PCIE3: x4 モード) - 1 x PCI Express 2.0 x1 スロット - 1 x PCI スロット - AMD Quad CrossFireX™、CrossFireX™ および Dual Graphics に対応
グラフィック	- A シリーズ APU に統合された AMD Radeon HD 8000/7000 シリーズグラフィックス - FM2+ CPU を搭載した DirectX 11.1、Pixel Shader 5.0。FM2 CPU を搭載した DirectX 11、Pixel Shader 5.0。 - 最大の共有メモリ 2GB - 3 つの VGA 出力オプション :D-Sub、DVI-D、HDMI - 3 台のモニターをサポート - 1920x1200 @ 60Hz の最大解像度で HDMI をサポート - 2560x1600 @ 60Hz の最大解像度で Dual-link DVI-D をサポート - 1920x1200 @ 60Hz の最大解像度で D-Sub をサポート - オート・リップシンク、ディープカラー(12bpc)、xvYCC、HBR(High Bit Rate)オーディオ、HDMI (HDMI 準拠モニタが必要)をサポート - HDMI 搭載 Blu-ray Stereoscopic 3D 対応

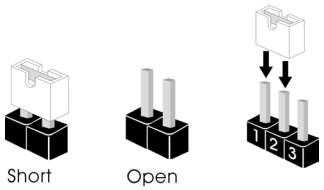
	- AMD Steady Video™ 2.0 のサポート: 家庭 / オンラインビデオの自動ジッター低減用の新しいビデオポストの処理機能 - HDCP 機能、DVI-D ポートおよび HDMI ポートをサポート - 1080p Blu-ray (BD) 再生サポート、DVI-D ポートおよび HDMI ポートをサポート
オーディオ	- 7.1 CH HD オーディオ、コンテンツプロテクション付き(Realtek ALC892 オーディオコーデック) - プレミアムブルーレイオーディオサポート
LAN	- PCIE x1 ギガビット LAN 10/100/1000 Mb/ 秒 - クアルコム® アセロス® AR8171 - クアルコム® アセロス® セキュリティウェイクオンインターネットテクノロジーをサポート - ウェイクオンランをサポート - エネルギー効率のよいイーサネット 802.3az をサポート - PXE をサポート
リアパネル I/O	I/O Panel - PS/2 マウス / キーボードポート x 1 - D-Sub ポート x 1 - DVI-D ポート x 1 - HDMI ポート x 1 - 光学 SPDIF 出力ポート x 1 - Ready-to-Use USB 2.0 ポート x 4 - Ready-to-Use USB 3.0 ポート x 2 (AMD A88X (Bolton-D4)) - LED(ACT/LINK LED および SPEED LED)付き RJ-45 LAN ポート x 1 - オーディオジャック:後部スピーカー、中央低音、入力、前部スピーカー、マイク入力
ストレージ	- 8 x SATA3 6.0Gb/ 秒コネクタが、RAID (RAID 0、RAID 1、RAID 5 および RAID 10)、NCQ、AHCI および "Hot Plug" (ホットプラグ) 機能をサポート
コネクター	- IR ヘッダー x 1 - プリントポートヘッダ x 1 - COM ポートヘッダ x 1 - シャーシ侵入ヘッダ x 1 - TPM ヘッダー x 1 - 電源 LED ヘッダー x 1 - CPU ファンコネクタ x 2 (4 ピン x 1、3 ピン x 1) - シャーシファンコネクタ x 1 (4 ピン) - 電源ファンコネクタ x 1 (3 ピン) - 24 ピン ATX 電源コネクター x 1

	- 8 ピン 12V 電源コネクター x 1 - フロントパネルオーディオコネクター x 1 - USB 2.0 ヘッダー (USB 2.0 用 6 ポートをサポート) x 3 - AMD A88X (Bolton-D4) の USB 3.0 ヘッダー (USB 3.0 用 2 ポートをサポート) x 1
BIOS 関連機能	- 64Mb AMI UEFI Legal BIOS、多言語 GUI サポート付き - プラグ&プレイをサポート - ACPI 1.1 準拠ウェイクアップイベント - jumperfree モードサポート - SMBIOS 2.3.1 サポート - DRAM および CPU ブリッジ電圧
サポート CD	- ドライバー、ユーティリティ、アンチウィルスソフトウェアハードウェア (体験版)、CyberLink MediaEspresso 6.5 試用版、Google Chrome Browser および Toolbar、Start8(30 日トライアル版)
モニター	- CPU 温度検知 - マザーボード温度検知 - CPU ファンタコメータ - シャーシファンタコメータ - CPU/ シャーシ静音ファン - CPU/ シャーシファンマルチ速度制御 - ケースオープン検出 - 電源モニター : +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
認証	- FCC, CE, Microsoft® WHQL 認証済み - ErP/EuP 対応(ErP/EuP 対応の電源装置が必要です)

* 製品の詳細については、http://www.asrock.com を御覧なさい。

1.3 ジャンパ設定

右の図はジャンパがどのように設定されているかを示します。ジャンパキャップがピンに置かれている場合、ジャンパは “ショート” になります。ジャンパキャップがピンに置かれていない場合、ジャンパ は“オープン”になります。右の図で、3ピンジャンパで、1-2 ピンを “ショート”の場合、これらの2つのピンにジャンパキャップを置きます。



ジャンパ	設定	説明
CMOS の消去ジャンパ (CLRCMOS1) (ページ 2 アイテム 9 参照)	デフォルト設定	CMOS の消去

注： CLRCMOS1 により、CMOS のデータをクリアできます。システムパラメータをクリアしデフォルト設定にリセットするには、コンピュータの電源をオフにし、電源装置から電源コードを抜いてください。15 秒待ってから、ジャンパキャップを使用して CLRCMOS1 のピン 2 とピン 3 を 5 秒間ショートしてください。ただし、BIOS 更新の後すぐには CMOS をクリアしないでください。BIOS の更新の終了後直ちに CMOS をクリアする必要がある場合、まずシステムを起動してからシャットダウンし、その後クリア CMOS アクションを実行する必要があります。パスワード、日付、時刻、ユーザーデフォルトのプロファイルを忘れずにメモしてください。1394 GUID と MAC アドレスは、CMOS バッテリを取り外した場合のみ消去されます。

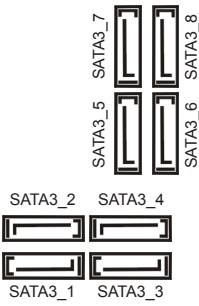
CMOSをクリアすると、ケースオープンが検出されることがあります。BIOS オプションの「Clear Status」(ステータスのクリア)を変更して、直前のシャーシ・イントルージョン・ステータスの記録を消去してください。

日本語

1.4 オンボードのヘッダとコネクタ類

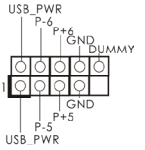
オンボードのヘッダとコネクタ類はジャンパではありません。それらのヘッダやコネクタにジャンパキャップをかぶせないでください。ヘッダやコネクタにジャンパキャップをかぶせると、マザーボードに深刻な影響を与える場合があります。

シリアル ATA3 コネクタ
SATA3_1: ページ 2, アイテム 16 を参照
SATA3_2: ページ 2, アイテム 17 を参照
SATA3_3: ページ 2, アイテム 15 を参照
SATA3_4: ページ 2, アイテム 14 を参照
SATA3_5: ページ 2, アイテム 13 を参照
SATA3_6: ページ 2, アイテム 12 を参照
SATA3_7: ページ 2, アイテム 10 を参照
SATA3_8: ページ 2, アイテム 11 を参照

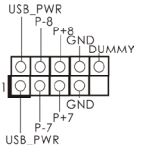


これら 8 本のシリアル ATA3 (SATA3)コネクタは内蔵ストレーデバイスに使用する SATA データケーブルに対応しています。現在の SATA3 インタフェースの最大データ転送速度は 6.0 Gb/s です。

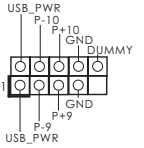
USB 2.0 ヘッダ
(9 ピン USB_5_6)
ページ 2, アイテム 21 を参照



(9 ピン USB_7_8)
ページ 2, アイテム 22 を参照

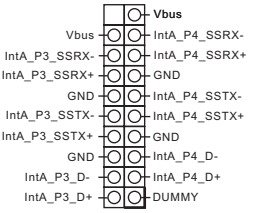


(9 ピン USB_9_10)
ページ 2, アイテム 23 を参照



I/O パネルには、デフォルトの 4 つの USB 2.0 ポート以外に、このマザーボードに 3 つの USB 2.0 ヘッダが搭載されています。それぞれの USB 2.0 ヘッダは 2 つの USB 2.0 ポートをサポートできます。

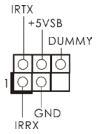
USB 3.0 ヘッダ
(19 ピン USB3_3_4)
ページ 2, アイテム 8 を参照



I/O パネルには、デフォルトの 2 つの USB 3.0 ポート以外に、このマザーボードに 1 つの USB 3.0 ヘッダが搭載されています。それぞれの USB 3.0 ヘッダは 2 つの USB 3.0 ポートをサポートできます。

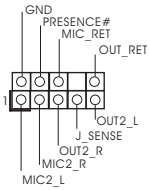
日本語

赤外線モジュールコネクタ
(5 ピン IR1)
ページ 2, アイテム 27 を参照



このコネクタは赤外線の無線送受信モジュールに対応します。

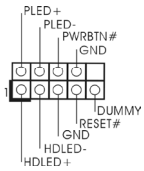
フロントオーディオパネルコネクタ
(9 ピン HD_AUDIO1)
ページ 2, アイテム 28 を参照



このコネクタは、オーディオ機器との便利な接続とコントロールを可能にするフロンとオーディオパネルのためのインターフェイスです。

1. ハイディフィニションオーディオはジャックセンシングをサポートしますが、正しく機能するためにシャーシのパネルワイヤがHAD をサポートする必要があります。このマニュアルとシャーシのマニュアルの指示に従って、システムを取り付けてください。
2. AC'97 オーディオパネルを使用する場合、次のように前面パネルのオーディオヘッダに取り付けてください。
   - A. Mic_IN (MIC) を MIC2_L に接続します。
   - B. Audio_R (RIN) を OUT2_R に、Audio_L (LIN) を OUT2_L に接続します。
   - C. Ground (GND) を Ground (GND) に接続します。
   - D. MIC_RET と OUT_RET はオーディオパネル専用です。AC'97 オーディオパネルに接続する必要はありません。
   - E. フロントマイクを有効化するには。
     Windows® 8 / 8 64-bit / 7 / 7 64-bit OS の場合：Realtek コントロールパネルから "FrontMic" (フロントマイク) タブを開きます。"Recording Volume"(録音音量) を調整します。

システムパネルコネクタ
(9 ピン PANEL1)
ページ 2, アイテム 18 を参照



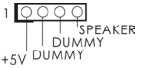
このコネクタは数種類のシステムフロントパネルの機能を提供します。

日本語

シャーシに付いている電源スイッチ、リセットスイッチ、システムステータスインジケータを下記のピン割り当て指示に従ってこのヘッダに接続します。ケーブルを接続する前にピンの正負極性にご注意ください。

PWRBTN（電源スイッチ）:
前面パネルに付いている電源スイッチに接続します。電源スイッチによるシステム電源オフ方法を設定して変更することも可能です。
RESET（リセットスイッエ）:
シャーシの前面パネルに付いているリセットスイッチに接続します。コンピュータがフリーズし、正常な再起動をしない場合は、リセットスイッチを押してコンピュータを再起動します。
PLED（システム電源 LED):
シャーシの前面パネルに付いている電源ステータスインジケータに接続します。LED は、システムが動作しているときに点灯します。LED はシステムが S1 スリープ状態のときに点滅します。システムが S3 または S4 スリープ状態になるか、電源オフ (S5) になると、LED は消灯します。
HDLED（ハードドライブアクティビティ LED):
シャーシの前面パネルに付いているハードドライブアクティビティ LED に接続します。LED は、ハードドライブがデータの読み込みまたは書き込み動作をしているときに点灯します。

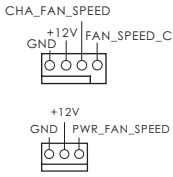
前面パネルのデザインはシャーシによって異なります。前面パネルモジュールは、主に電源スイッチ、リセットスイッチ、電源 LED、ハードドライブアクティビティ LED、スピーカーなどから構成されています。シャーシの前面パネルモジュールをこのヘッダに接続する際は、ワイヤとピンの割り当てが正しく対応していることを確認してください。

シャーシスピーカーヘッダ (4 ピン SPEAKER1) ページ 2，アイテム 20 を参照		シャーシのスピーカーとこのヘッダを接続してください。
電源 LED ヘッダー (3 ピン PLED1) ページ 2，アイテム 19 を参照		シャーシ電源 LED をこのヘッダーに接続し、システム電源ステータスを示すようにしてください。LED はシステムが動作中の際にオンになります。S1 ステータスでは LED は点滅し続けます。S3/S4 ステータス、または S5 ステータス（電源オフ）の場合、LED は消灯します。

日本語

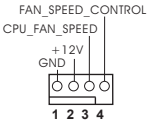
シャーシおよび電源ファンコネクタ
(4 ピン CHA_FAN1)
ページ 2，アイテム 30 を参照

(3 ピン PWR_FAN1)
ページ 2，アイテム 1 を参照



ファンケーブルをファンコネクタに接続し、黒いワイヤをアースピンに合わせてください。

CPU ファンコネクタ
(4 ピン CPU_FAN1)
ページ 2，アイテム 3 を参照

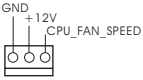


このコネクタには CPU ファンケーブルを接続します。黒いコードはアースピンに接続してください。

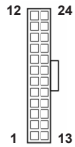
このマザーボードでは 4 ピン CPU ファン (クワイエットファン) がサポートされていますが、ファン速度コントロール機能がない場合でも、3 ピン CPU ファンは正常に作動します。3 ピン CPU ファンをこのマザーボードの CPU ファンコネクタに接続しようとしている場合、ピン 1-3 に接続してください。

接続されたピン 1-3
3 ピンファンのインストール

(3 ピン CPU_FAN2)
ページ 2，アイテム 4 を参照



ATX パワーコネクタ
(24 ピン ATXPWR1)
ページ 2，アイテム 7 を参照



ATX 電源コネクタを接続します。

このマザーボードには 24 ピン ATX 電源コネクタが装備されており、従来の 20 ピン ATX 電源装置を採用している場合でも作動します。20 ピン ATX 電源を使用するには、ピン 1 およびピン 13 と共に電源装置にプラグを差し込みます。

20 ピン ATX 電源装置の取り付け

日本語

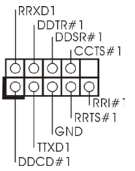
ATX 12V コネクタ
(8 ピン ATX12V1)
ページ 2, アイテム 2 を参照

このコネクタには CPU に Vcore 電源を供給できるように、ATX 12V プラグを備えたサワーサプライを接続する必要があることに注意してください。接続に問題があると、電源は正しく供給されません。

このマザーボードで 8-pin ATX 12V 電源コネクタが提供されたが、従来の 4-pin ATX 12V 電源でも動作できます。4-pin ATX 電源を使用する場合、電源を Pin 1 と Pin 5 とともに差し込んでください。

4-Pin ATX 12V 電源の取り付け

シリアルポートヘッダ
(9 ピン COM1)
ページ 2, アイテム 26 を参照

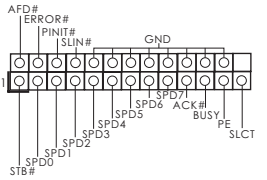


この COM1 ヘッダは、シリアルポートモジュールをサポートします。

ケース侵入ヘッダ
(2 ピン CI1)
ページ 2, アイテム 29 を参照

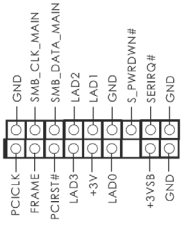
このマザーボードはケースオープン信検出機能に対応しており、シャーシカバーが取り外されているかどうかを検出します。この機能は、シャーシ侵入検出設計を組み込んだシャーシを必要とします。

プリントポートヘッダ
(25 ピン LPT1)
ページ2, アイテム 25 を参照



これはプリントポートケーブル用のインターフェイスで、プリンタデバイスの接続を可能にします。

TPM ヘッダー
(17 ピン TPMS1)
ページ2, アイテム 24 を参照



このコネクターはトラステッドプラットフォームモジュール(TPM)システムをサポートし、鍵、デジタル証明書、パスワード、データを安全に保管することができます。 TPM システムはまた、ネットワークセキュリティを高め、デジタル証明書を保護し、プラットフォームの完全性を保証します。

2. BIOS 情報

BIOS セットアップユーティリティはマザーボードのフラッシュメモリに保存されています。コンピュータを起動させた後、POST(パワーオンセルフテスト)中に〈F2〉または〈Del〉を押し、BIOS セットアップユーティリティに入ってください。押さない場合、POST はテストルーチンを続けます。テストを実行した後に BIOS セットアップユーティリティに入りたい場合、POST 終了後〈Ctrl〉+〈Alt〉+〈Delete〉を押すか、ケースのリセットスイッチを押してシステムを再起動してください。BIOS セットアップユーティリティは、ユーザーフレンドリであることを目指しています。これはメニュウ方式のプログラムです。スクロールさせることで様々なサブメニューを表示し、かつあらかじめ定義した選択肢から選択することが可能です。BIOS セットアップの詳細な情報については、サポート CD 内のユーザーズマニュアル (PDF ファイル) をごらんください。

3. ソフトウェア　サポート CD 情報

このマザーボードは Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit といった様々なマイクロソフト ウインドウズ オペレーティングシステムをサポートします。マザーボードに付属しているサポート CD はマザーボードの特徴を有効にするために必要なドライバやユーティリティを含んでいます。サポート CD を使用するには、CDROM ドライブに CD を挿入してください。AUTORUN 機能が有効な場合、自動的にメインメニュウが立ち上がります。AUTORUN 機能が無効な場合、サポート CD 内の BIN フォルダにある ASRSETUP.EXE をダブルクリックすることにより、メインメニュウが立ち上がります。

1. 主板简介

谢谢你采用了华擎 ***FM2A88M Extreme4+*** 主板，本主板由华擎严格制造，质量可靠，稳定性好，能够获得卓越的性能。本安装指南介绍了安装主板的步骤。更加详细的主板信息可参看驱动光盘的用户手册。

由于主板规格和 BIOS 软件将不断升级，本手册之相关内容变更恕不另行通知。请留意华擎网站上公布的升级版本。你也可以在华擎网站找到最新的显卡和 CPU 支持表。
华擎网址：http://www.asrock.com
如果您需要与此主板有关的技术支持，请参观我们的网站以了解您使用机种的规格信息。
www.asrock.com/support/index.asp

1.1 包装盒内物品

华擎 ***FM2A88M Extreme4+*** 主板（Micro ATX 规格）
华擎 ***FM2A88M Extreme4+*** 快速安装指南
华擎 ***FM2A88M Extreme4+*** 支持光盘
两条 Serial ATA(SATA) 数据线（选配）
一块 I/O 挡板

ASRock提醒您...
为了在 Windows® 8 / 8 64-bit / 7 / 7 64-bit系统中取得更好的性能，建议您在BIOS中将Storage Configuration（存储配置）选项设成AHCI模式。关于BIOS设置程序，请参见支持光盘中的“User Manual”以了解相详细信息。

1.2 主板规格

架构	– Micro ATX 规格 – 全固态电容器设计
A-Style	– 家庭云
处理器	– 支持 Socket FM2+ 95W / FM2 100W 处理器 – 4 + 2 电源相位设计
芯片组	– AMD A88X (Bolton-D4)
系统内存	– 支持双通道 DDR3 内存技术 – 配备 4 个 DDR3 DIMM 插槽 – 支持 DDR3 2600+(超频)/2400(超频)/2133(超频)/1866/1600/1333/1066/800 non-ECC、un-buffered 内存 * 只支持双 DIMM 的 DDR3 2600+ – 最高支持 64GB 系统容量 – 支持 Intel® Extreme Memory Profile(XMP)1.3/1.2 – 支持 AMD Memory Profile(AMP)
扩展插槽	– 1 x PCI Express 3.0 x16 插槽 (PCIE1: x16 模式) * 仅 FM2+ CPU 支持 PCIE 3.0。对于 FM2 CPU，只支持 PCIE 2.0。 – 1 x PCI Express 2.0 x16 插槽 (PCIE3: x4 模式) – 1 x PCI Express 2.0 x1 插槽 – 1 x PCI 插槽 – 支持 AMD Quad CrossFireX™、CrossFireX™ 和双显卡技术
板载显卡	– A- 系列 APU 中集成 AMD Radeon HD 8000/7000 系列图形 – DirectX 11.1、Pixel Shader 5.0 (FM2+ CPU)。 DirectX 11、Pixel Shader 5.0 (FM2 CPU)。 – 最大共享内存 2GB – 支持三个 VGA 输出选项 :D-Sub、DVI-D 和 HDMI – 支持三显示器 – 支持 HDMI，最高分辨率达 1920x1200 @ 60Hz – 支持 Dual-link DVI-D，最高分辨率达 2560x1600 @ 60Hz – 支持 D-Sub，最高分辨率达 1920x1200 @ 60Hz – 支持 HDMI，可支持 Auto Lip Sync、Deep Color (12bpc)、xvYCC 与 HBR(高位速音频)(需配备兼容 HDMI 的显示器) – 支持蓝光立体 3D 和 HDMI – 支持 AMD Steady Video™ 2.0: 最新视频后处理能力，可为家庭 / 在线视频提供自动降低抖动的功能 – 通过 DVI-D 和 HDMI 接口支持 HDCP 功能 – 通过 DVI-D 和 HDMI 接口可播放 1080 线蓝光光盘 (BD)

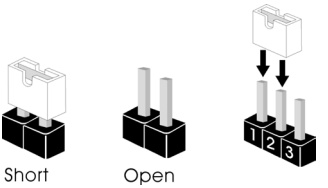
音效	– 具有内容保护功能的 7.1 CH 高清音频 (Realtek ALC892 音频编解码器) – 优质 Blu-ray 音频支持
板载 LAN 功能	– PCIE x1 Gigabit LAN 10/100/1000 Mb/s – Qualcomm® Atheros® AR8171 – 支持 Qualcomm® Atheros® 网上安全唤醒技术 – 支持 Wake-On-LAN (网上唤醒) – 支持高能效以太网 802.3az – 支持 PXE
Rear Panel I/O (后面板输入 / 输出接口)	I/O 界面 – 1 个 PS/2 鼠标 / 键盘接口 – 1 个 D-Sub 接口 – 1 个 DVI-D 接口 – 1 个 HDMI 接口 – 1 个光纤 SPDIF 输出接口 – 4 个可直接使用的 USB 2.0 接口 – 2 个可直接使用的 USB 3.0 接口 (AMD A88X (Bolton-D4)) – 1 个 RJ-45 局域网接口与 LED 指示灯 (ACT/LINK LED 和 SPEED LED) – 高保真音频插孔: 后置喇叭 / 中置喇叭 / 低音喇叭 / 音频输入 / 前置喇叭 / 麦克风
存储	– 8 x SATA3 6.0Gb/s 连接头, 支持 RAID (RAID 0, RAID 1, RAID 5 和 RAID 10),NCQ,AHCI 和热插拔功能
连接头	– 1 x 红外线模块接头 – 1 x 打印机端口接针 – 1 x 串行接口 – 1 x 机箱开启警告功能接针 – 1 x TPM 接针 – 1 x 电源指示灯连接排针 – 2 x CPU 风扇接头 (1 x 4 针, 1 x 3 针) – 1 x 机箱风扇接头 (4 针) – 1 x 电源风扇接头 (3 针) – 1 x 24 针 ATX 电源接头 – 1 x 8 针 12V 电源接头 – 1 x 前置音频面板接头 – 3 x USB 2.0 接口 (可支持 6 个额外的 USB 2.0 接口) – 1 x AMD A88X (Bolton-D4) 的 USB 3.0 接针 (可支持 2 个额外的 USB 3.0 接口)

BIOS	– 64Mb AMI UEFI Legal BIOS，具有多语言 GUI 支持 – 支持即插即用（Plug and Play,PnP） – ACPI 1.1 电源管理唤醒功能 – 支持 jumperfree 免跳线模式 – SMBIOS 2.3.1 支持 – DRAM 和 CPU 电压多功能调节器
支持光盘	– 驱动程序、工具软件、杀毒软件（测试版本）、CyberLink MediaEspresso 6.5 试用版、Chrome 谷歌浏览器和工具栏、Start8(30 天试用版）
硬件监控器	– CPU 温度侦测 – 机箱温度侦测 – CPU 风扇转速计 – 机箱风扇转速计 – CPU/ 机箱静音风扇 – CPU/ 机箱风扇多速控制 – 机箱开启侦测 – 电压范围：+12V、+5V、+3.3V、核心电压
操作系统	– Microsoft® Windows® 8.1 32 位元 /8.1 64 位元 /8 32 位元 / 8 64 位元 /7 32 位元 /7 64 位元适用于此主板
认证	– FCC, CE, WHQL – 支持 ErP/EuP（需要同时使用支持 ErP/EuP 的电源供应器）

* 请参阅华擎网站了解详细的产品信息： http://www.asrock.com

1.3 跳线设置

插图所示的就是设置跳线的方法。当跳线帽放置在针脚上时，这个跳线就是“短接”。如果针脚上没有放置跳线帽，这个跳线就是“开路”。插图显示了一个 3 针脚的跳线，当跳线帽放置在针脚 1 和针脚 2 之间时就是“短接”。



接脚	设定
清除 CMOS (CLRCMOS1，3 针脚跳线) (见第 2 页第 9 项)	1_2 默认设置 2_3 清除 CMOS

注意：CLRCMOS1 允许您清除 CMOS 中的数据。如要清除并将系统参数恢复至默认设置，请关闭计算机，然后从电源插座上拔掉电源线。等待 15 秒后，使用跳线帽将 CLRCMOS1 上的插针 2 和插针 3 短接 5 秒。但是，请勿在更新 BIOS 后立即清除 CMOS。如果需要在更新 BIOS 后立即清除 CMOS，必须在执行 CMOS 清除操作之前，先启动然后关闭系统。请注意，只有取出 CMOS 电池，密码、日期、时间、用户默认配置文件、1394 GUID 和 MAC 地址才会被清除。

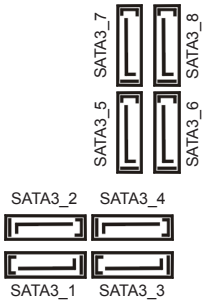
如果您清除了CMOS,机箱开启功能可能会被侦测到。请调节BIOS选项”Clear Status”(清除状态)清除之前机箱防盗侦测状态的纪录。

1.4 板载接头和接口

板载接头和接口不是跳线。切勿将跳线帽放置在这些接头和接口上。将跳线帽放置在接头和接口上将会导致主板的永久性损坏！

Serial ATA3 接口

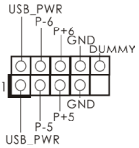
(SATA3_1：见第 2 页第 16 项)
(SATA3_2：见第 2 页第 17 项)
(SATA3_3：见第 2 页第 15 项)
(SATA3_4：见第 2 页第 14 项)
(SATA3_5：见第 2 页第 13 项)
(SATA3_6：见第 2 页第 12 项)
(SATA3_7：见第 2 页第 10 项)
(SATA3_8：见第 2 页第 11 项)



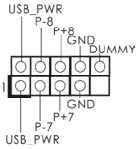
这里有八组 Serial ATA3 (SATA3) 接口支持 Serial (SATA) 数据线作为内部储存设置。目前 SATA3 界面理论上可提供高达 6.0Gb/s 的数据传输速率。

USB 2.0 扩展接头

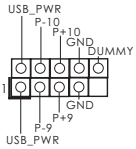
(9 针 USB_5_6)
(见第 2 页第 21 项)



(9 针 USB_7_8)
(见第 2 页第 22 项)



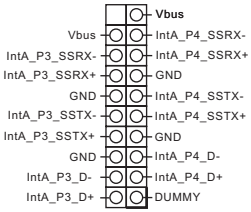
(9 针 USB_9_10)
(见第 2 页第 23 项)



除了位於 I/O 面板的四个默认 USB 2.0 接口之外，这款主板有三组 USB 2.0 接针。这组 USB 2.0 接针可以支持两个 USB 2.0 接口。

USB 3.0 扩展接头

(19 针 USB3_3_4)
(见第 2 页第 8 项)



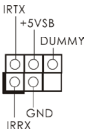
除了位於 I/O 面板的两个默认 USB 3.0 接口之外，这款主板有一组 USB 3.0 接针。这组 USB 3.0 接针可以支持两个 USB 3.0 接口。

简体中文

红外线模块接头

(5 针 IR1)

(见第 2 页第 27 项)

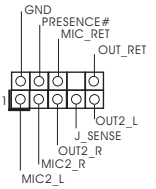


这个接头支持一个选配的无线发送和接受红外线的模块。

前置音频面板接头

(9 针 HD_AUDIO1)

(见第 2 页第 28 项)



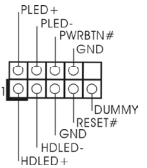
可以方便连接音频设备。

1. 高保真音频 (High Definition Audio, HDA) 支持智能音频接口检测功能 (Jack Sensing), 但是机箱面板的连线必须支持 HDA 才能正常使用。请按我们提供的手册和机箱手册上的使用说明安装您的系统。
2. 如果您使用 AC'97 音频面板，请按照下面的步骤将它安装到前面板音频接针：
   A. 将 Mic_IN(MIC) 连接到 MIC2_L。
   B. 将 Audio_R(RIN) 连接到 OUT2_R, 将 Audio_L(LIN) 连接到 OUT2_L。
   C. 将 Ground(GND) 连接到 Ground(GND)。
   D. MIC_RET 和 OUT_RET 仅用于 HD 音频面板。您不必将它们连接到 AC'97 音频面板。
   E. 开启前置麦克风。
      在 Windows® 8 / 8 64 位元 / 7 / 7 64 位元操作系统中：
      在 Realtek 控制面板中点击"FrontMic"。调节"Recording Volume"。

系统面板接头

(9 针 PANEL1)

(见第 2 页第 18 项)



这个接头提供数个系统前面板功能。

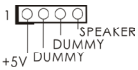
根据下面的针脚说明连接机箱上的电源开关、重启按钮与系统状态指示灯到这个排针。根据之前请注意针脚的正负极。

PWRBTN(电源开关):
连接机箱前面板的电源开关。您可以设置用电源键关闭系统的方式。
RESET(重启开关):
连接机箱前面板的重启开关。当电脑死机且无法正常重新启动时，可按下重启开关重新启动电脑。

PLED（系统电源指示灯）：
连接机箱前面板的电源状态指示灯。当系统运行时，此指示灯亮起。当系统处于 S1 待机模式时，此指示灯保持闪烁。当系统处于 S3/S4 待机模式或关机（S5）模式时，此指示灯熄灭。
HD LED（硬盘活动指示灯）：
连接机箱前面板的硬盘动作指示灯。当硬盘正在读取或写入数据时，此指示灯亮起。

前面板设计因机箱不同而有差异。前面板模块一般由电源开关、重启开关、电源指示灯、硬盘动作指示灯、喇叭等构成。将您的机箱前面板连接到此排针时，请确认连接线与针脚上的说明相对应。

机箱喇叭接头
(4 针 SPEAKER1)
（见第 2 页第 20 项）



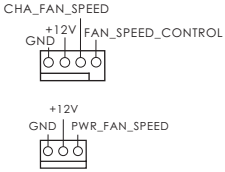
请将机箱喇叭连接到这个接头。

电源指示灯连接排针
(3 针 PLED1)
（见第 2 页第 19 项）

请将机箱电源指示灯连接到这一排针，以指示系统电源状态。当系统正在运行时，LED 指示灯亮。在 S1 模式下，LED 指示灯会不停闪烁。在 S3/S4 或 S5 模式（关机）下，LED 指示灯会熄灭。

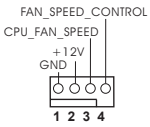
机箱，电源风扇接头
(4 针 CHA_FAN1)
（见第 2 页第 30 项）

(3 针 PWR_FAN1)
（见第 2 页第 1 项）



请将风扇连接线接到这个接头，并让黑线与接地的针脚相接。

CPU 风扇接头
(4 针 CPU_FAN1)
（见第 2 页第 3 项）



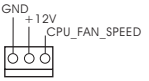
请将 CPU 风扇连接线接到这个接头，并让黑线与接地的针脚相接。

虽然此主板支持 4-Pin CPU 风扇（Quiet Fan，静音风扇），但是没有调速功能的 3-Pin CPU 风扇仍然可以在此主板上正常运行。如果您打算将 3-Pin CPU 风扇连接到此主板的 CPU 风扇接口，请将它连接到 Pin 1-3。

Pin 1-3 连接
3-Pin 风扇的安装

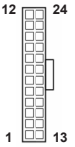
简体中文

(3 针 CPU_FAN2)
(见第 2 页第 4 项)



ATX 电源接头

(24 针 ATXPWR1)
(见第 2 页第 7 项)



请将 ATX 电源供应器连接到这个接头。

虽然此主板提供 24-pin ATX 电源接口，但是您仍然可以使用传统的 20-pin ATX 电源。为了使用 20-pin ATX 电源，请顺著 Pin 1 和 Pin 13 插上电源接头。

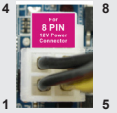
20-Pin ATX 电源安装说明

ATX 12V 接头

(8 针 ATX12V1)
(见第 2 页第 2 项)

请将一个 ATX 12V 电源供应器接到这个接头。

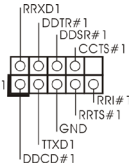
虽然此主板提供 8-pin ATX 12V 电源接口，但是您仍然可以使用传统的 4-pin ATX 12V 电源。为了使用 4-pin ATX 12V 电源，请顺著 Pin 1 和 Pin 5 插上电源接头。



4-Pin ATX 12V 电源安装说明

串行接口连接器

(9 针 COM1)
(见第 2 页第 26 项)



这个 COM1 端口支持一个串行接口的外设。

机箱开启警告功能接针

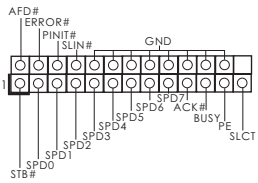
(2 针 CI1)
(见第 2 页第 29 项)

本主板支持机箱开启侦测功能，可侦测机箱盖是否被移动。此功能需机箱具备机箱开启侦测设计。

打印机端口接针

(25 针 LPT1)

(见第 2 页第 25 项)

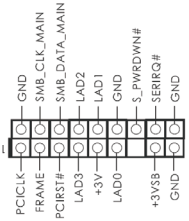


这是一个连接打印机端口的接口，方便您连接打印机设备。

TPM 接针

(17 针 TPMS1)

(见第 2 页第 24 项)



此接头支援信赖平台模组 (TPM) 系统，可确保储存金钥、数位凭证、密码及资料的安全。TPM 系统也能强化网路安全、保护数位身分并确定平台完整性。

2. BIOS 信息

主板上的 Flash Memory 存储了 BIOS 设置程序。请再启动电脑进行开机自检 (POST) 时按下 <F2> 或 <Del> 键进入 BIOS 设置程序；此外，你也可以让开机自检 (POST) 进行常规检验。如果你需要在开机自检 (POST) 之后进入 BIOS 设置程序，请按下 <Ctrl>+<Alt>+<Delete> 键重新启动电脑，或者按下系统面板上的重启按钮。有关 BIOS 设置的详细信息，请查阅随机支持光盘里的用户手册 (PDF 文件)。

3. 支持光盘信息

本主板支持各种微软视窗操作系统：Microsoft® Windows® 8.1 32 位元 /8.1 64 位元 /8 32 位元 /8 64 位元 /7 32 位元 /7 64 位元。主板随机支持光盘包含各种有助于提高主板效能的必要驱动和实用程序。请将随机支持光盘放入光驱里，如果电脑的“自动运行”功能已启用，屏幕将会自动显示主菜单。如果主菜单不能自动显示，请查找支持光盘内 BIN 文件夹下的“ASRSETUP.EXE”，并双击它，即可调出主菜单。

电子信息产品污染控制标示

依据中国发布的「电子信息产品污染控制管理办法」及 SJ/T 11364-2006「电子信息产品污染控制标示要求」，电子信息产品应进行标示，藉以向消费者揭露产品中含有的有毒有害物质或元素不致发生外泄或突变从而对环境造成污染或对人身、财产造成严重损害的期限。依上述规定，您可于本产品之印刷电路板上看见图一之标示。图一中之数字为产品之环保使用期限。由此可知此主板之环保使用期限为 10 年。

图一

有毒有害物质或元素的名称及含量说明

若您欲了解此产品的有毒有害物质或元素的名称及含量说明，请参照以下表格及说明。

部件名称	有害物质或元素					
	铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及电子组件	X	O	O	O	O	O
外部信号连接头及线材	X	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求，然该部件仍符合欧盟指令 2002/95/EC 的规范。

备注： 此产品所标示之环保使用年限，系指在一般正常使用状况下。

1. 主機板簡介

謝謝你採用了華擎 ***FM2A88M Extreme4+*** 主機板，本主機板由華擎嚴格製造，品質可靠，穩定性好，能夠獲得卓越的性能。此快速安裝指南包括了主機板介紹和分步驟安裝指導。您可以查看支持光碟裡的使用手冊了解更詳細的資料。

由於主機板規格和 BIOS 軟體將不斷更新，本手冊之相關內容變更恕不另行通知。請留意華擎網站上公布的更新版本。你也可以在華擎網站找到最新的顯示卡和 CPU 支援列表。
華擎網址：http://www.asrock.com
如果您需要與此主機板有關的技術支援，請參觀我們的網站以了解您使用機種的規格訊息。
www.asrock.com/support/index.asp

1.1 包裝盒內物品

華擎 ***FM2A88M Extreme4+*** 主機板 (Micro ATX 規格)
華擎 ***FM2A88M Extreme4+*** 快速安裝指南
華擎 ***FM2A88M Extreme4+*** 支援光碟
兩條 Serial ATA(SATA) 數據線 (選配)
一塊 I/O 擋板

ASRock提醒您...
若要在Windows® 8 / 8 64位元 / 7 / 7 64位元中發揮更好的效能，建議您將儲存裝置組態中的BIOS選項設為AHCI模式。有關BIOS設定的詳細資訊，請參閱支援光碟中的「使用者手冊」。

1.2 主機板規格

架構	- Micro ATX 規格 - 全固態電容設計
A-Style	- 家庭雲
處理器	- 支援插座 FM2+ 95W / FM2 100W 處理器 - 4 + 2 電源相位設計
晶片組	- AMD A88X (Bolton-D4)
系統記憶體	- 支援雙通道 DDR3 記憶體技術 - 4 個 DDR3 DIMM 插槽 - 支援 DDR3 2600+(超頻)/2400(超頻)/2133(超頻)/1866/1600/1333/1066/800 non-ECC、un-buffered 記憶體 * DDR3 2600+ 僅支援兩條 DIMM 插槽。 - 最高支援 64GB 系統容量 - 支援 Intel® Extreme Memory Profile(XMP)1.3/1.2 - 支援 AMD Memory Profile(AMP)
擴充插槽	- 1 x PCI Express 3.0 x16 插槽 (PCIE1: x16 模式) * PCIE 3.0 僅支援 FM2+ CPU。使用 FM2 CPU 時，僅支援 PCIE 2.0。 - 1 x PCI Express 2.0 x16 插槽 (PCIE3: x4 模式) - 1 x PCI Express 2.0 x1 插槽 - 1 x PCI 插槽 - 支援 AMD Quad CrossFireX™、CrossFireX™ 和雙顯卡技術
內建顯示	- A 系列 APU 整合 AMD Radeon HD 8000/7000 系列顯示晶片 - FM2+ CPU 採用 DirectX 11.1、Pixel Shader 5.0。FM2 CPU 採用 DirectX 11、Pixel Shader 5.0。 - 最大共享記憶體 2GB - 支援三個 VGA 輸出選項 :D-Sub、DVI-D 和 HDMI - 支援三台顯視器 - 支援 HDMI, 最高解析度達 1920x1200 @ 60Hz - 支援 Dual-link DVI-D, 最高解析度達 2560x1600 @ 60Hz - 支援 D-Sub, 最高解析度達 1920x1200 @ 60Hz - 支援 HDMI, 可支援 Auto Lip Sync、Deep Color (12bpc)、xvYCC 與 HBR(高位元率音效)(需具備相容 HDMI 的銀幕) - 支援使用 HDMI 播放藍光立體 3D 影像 - 支援 AMD Steady Video™ 2.0：最新影像後處理能力，可為家庭 / 線上影像提供自動降低手震的功能 - DVI-D 和 HDMI 接口支援 HDCP 功能 - DVI-D 和 HDMI 接口可播放 1080p 藍光光碟 (BD)

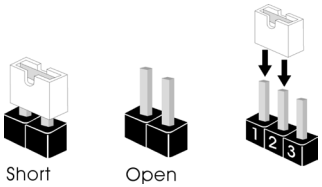
音效	- 7.1 CH HD 音訊含內容保護(Realtek ALC892 音訊轉碼器)功能 - 高階藍光音訊支援
網路功能	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - 支援 Qualcomm® Atheros® Security Wake On Internet Technology - 支援網路喚醒 - 支援 Energy Efficient Ethernet 802.3az - 支援 PXE
Rear Panel I/O (後背板輸入/輸出接口)	I/O 界面 - 1 個 PS/2 滑鼠 / 鍵盤接口 - 1 個 D-Sub 接口 - 1 個 DVI-D 接口 - 1 個 HDMI 接口 - 1 個光纖 SPDIF 輸出接口 - 4 個可直接使用的 USB 2.0 接口 - 2 個可直接使用的 USB 3.0 接口 (AMD A88X (Bolton-D4)) - 1 個 RJ-45 區域網接口與 LED 指示燈 (ACT/LINK LED 和 SPEED LED) - 高清晰音效插孔：後置喇叭 / 中置喇叭 / 低音喇叭 / 音效輸入 / 前置喇叭 / 麥克風
儲存裝置	- 8 x SATA3 6.0Gb/s 接頭，支援 RAID (RAID 0, RAID 1, RAID 5 和 RAID 10), NCQ, AHCI 和熱插拔功能
接頭	- 1 x 紅外線模組接頭 - 1 x 印表機接針 - 1 x 序列埠 - 1 x 機殼開啟警告功能接頭 - 1 x TPM 接頭 - 1 x 電源指示燈接頭 - 2 x CPU 風扇接頭 (1 x 4 針, 1 x 3 針) - 1 x 機箱風扇接頭 (4 針) - 1 x 電源風扇接頭 (3 針) - 1 x 24 針 ATX 電源接頭 - 1 x 8 針 12V 電源接頭 - 1 x 前置音效接頭 - 3 x USB 2.0 接頭 (可支援 6 個額外的 USB 2.0 接口) - 1 x AMD A88X (Bolton-D4) 的 USB 3.0 接頭 (可支援 2 個額外的 USB 3.0 接口)

BIOS	- 64Mb AMI UEFI Legal BIOS，具備多國語言 GUI 支援 - 支援即插即用 (Plug and Play,PnP) - ACPI 1.1 電源管理喚醒功能 - 支援 jumperfree 免跳線模式 - 支援 SMBIOS 2.3.1 - DRAM、CPU 電壓多功能調節
支援光碟	- 驅動程式、工具軟體、防毒軟體（試用版本）、CyberLink MediaEspresso 6.5 試用版、Google Chrome Browser 和 Toolbar、Start8（30 天試用）
硬體監控	- CPU 溫度偵測 - 機箱溫度偵測 - CPU 風扇轉速計 - 機箱風扇轉速計 - CPU/ 機箱靜音風扇 - CPU/ 機箱風扇多速控制 - 機殼開啟偵測 - 電壓範圍：+12V, +5V, +3.3V, 核心電壓
操作系統	- Microsoft® Windows® 8.1 32 位元 /8.1 64 位元 /8 32 位元 /8 64 位元 /7 32 位元 /7 64 位元
認證	- FCC, CE, WHQL - 支援 ErP/EuP(需要同時使用支援 ErP/EuP 的電源供應器)

* 請參閱華擎網站了解詳細的產品訊息：http://www.asrock.com

1.3 跳線設置

插圖所示的就是設置跳線的方法。當跳線帽放置在針腳上時，這個跳線就是“短接”。如果針腳上沒有放置跳線帽， 這個跳線就是“開路”。插圖顯示了一個 3 針腳的跳線，當跳線帽放置在針腳 1 和針腳 2 之間時就是“短接”。



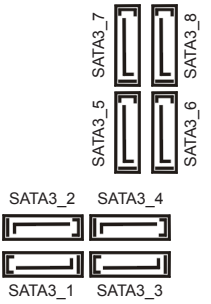
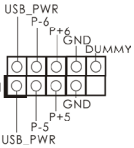
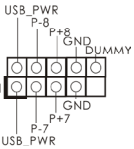
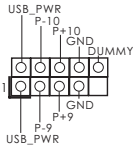
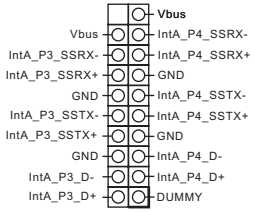
接腳	設定
清除 CMOS (CLRCMOS1, 3 針腳跳線) (見第 2 頁第 9 項)	1_2 默認設置 2_3 清除 CMOS

註： CLRCMOS1 可供您清除 CMOS 中的資料。若要清除及重設系統參數並恢復為預設設定，請先關閉電腦電源，並從電源插座中拔下電源線，等待 15 秒鐘之後，使用跳線帽使 CLRCMOS1 的 pin2 及 pin3 短路 5 秒的時間。但請勿於更新 BIOS 後立即清除 CMOS。如需於更新 BIOS 後立即清除 CMOS，您必須先開機再關機，然後再執行 CMOS 清除操作。請注意，只有在移除 CMOS 電池的情況下，密碼、日期、時間、使用者預設設定檔、1394 GUID 及 MAC 位址才會清除。

如果您清除了CMOS,機殼開啟功能可能會被偵測到。請調整BIOS選項”Clear Status”(清除狀態)清除之前機殼防盜偵測狀態的紀錄。

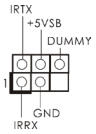
1.4 接頭

此類接頭是不用跳線帽連接的，請不要用跳線帽短接這些接頭。
跳線帽不正確的放置將會導致主機板的永久性損壞！

接頭	圖示	說明
Serial ATA3 接口 (SATA3_1: 見第 2 頁第 16 項) (SATA3_2: 見第 2 頁第 17 項) (SATA3_3: 見第 2 頁第 15 項) (SATA3_4: 見第 2 頁第 14 項) (SATA3_5: 見第 2 頁第 13 項) (SATA3_6: 見第 2 頁第 12 項) (SATA3_7: 見第 2 頁第 10 項) (SATA3_8: 見第 2 頁第 11 項)		這裡有八組 Serial ATA3 (SATA3) 接口支援 SATA 數據線作為內部儲存設置。目前 SATA3 界面理論上可提供高達 6.0Gb/s 的數據傳輸速率。
USB 2.0 擴充接頭 (9 針 USB_5_6) (見第 2 頁第 21 項)		除了位於 I/O 面板的四個 USB 2.0 接口之外，這款主機板有三組 USB 2.0 接針。每組 USB 2.0 接針可以支援兩個 USB 2.0 接口。
(9 針 USB_7_8) (見第 2 頁第 22 項)		
(9 針 USB_9_10) (見第 2 頁第 23 項)		
USB 3.0 擴充接頭 (19 針 USB3_3_4) (見第 2 頁第 8 項)		除了位於 I/O 面板的兩個 USB 3.0 接口之外，這款主機板有一組 USB 3.0 接針。這組 USB 3.0 接針可以支援兩個 USB 3.0 接口。

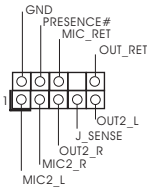
繁體中文

紅外線模組接頭
(5 針 IR1)
(見第 2 頁第 27 項)



這個接頭支援一個選配的模組，可用來無線傳輸和接收紅外線。

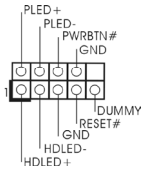
前置音效接頭
(9 針 HD_AUDIO1)
(見第 2 頁第 28 項)



可以方便連接音效設備。

1. 高清晰音效(High Definition Audio, HDA)支援智能音效接口檢測功能(Jack Sensing), 但是機箱面板的連線必須支持 HDA 才能正常使用。請按我們提供的手冊和機箱手冊上的使用說明安裝您的系統。
2. 如果您使用 AC' 97 音效面板，請按照下面的步驟將它安裝到前面板音效接針：
   A. 將 Mic_IN(MIC) 連接到 MIC2_L。
   B. 將 Audio_R(RIN) 連接到 OUT2_R, 將 Audio_L(LIN) 連接到 OUT2_L。
   C. 將 Ground(GND) 連接到 Ground(GND)。
   D. MIC_RET 和 OUT_RET 僅用於 HD 音效面板。您不必將它們連接到 AC' 97 音效面板。
   E. 開啟前置麥克風。
      在 Windows® 8 / 8 64 位元 / 7 / 7 64 位元作業系統中：
      在 Realtek 控制面板中點選" FrontMic "。調整" Recording Volume "。

系統面板接頭
(9 針 PANEL1)
(見第 2 頁第 18 項)



可接各種不同燈，電源開關及重啟鍵等各種連線。

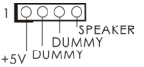
請根據下面的腳位說明連接機箱上的電源開關、重開按鈕與系統狀態指示燈到這個接頭。請先注意針腳的正負極。

PWRBTN(電源開關):
連接機箱前面板的電源開關。您可以設定用電源鍵關閉系統的方式。
RESET(重開開關):
連接機箱前面板的重開開關。當電腦當機且無法正常重新啟動時，可按下重開開關重新啟動電腦。

PLED(系統電源指示燈):
連接機箱前面板的電源狀態指示燈。當系統運行時，此指示燈亮起。當系統處於 S1 待命模式時，此指示燈保持閃爍。當系統處於 S3/S4 待命模式或關機 (S5) 模式時，此指示燈熄滅。
HD LED(硬碟活動指示燈):
連接機箱前面板的硬碟動作指示燈。當硬碟正在讀取或寫入數據時，此指示燈亮起。

前面板設計因機箱不同而有差異。前面板模組一般由電源開關、重開開關、電源指示燈、硬碟活動指示燈、喇叭等構成。將您的機箱前面板連接到此接頭時，請確認連接線與針腳上的說明相對應。

機箱喇叭接頭
(4 針 SPEAKER1)
(見第 2 頁第 20 項)



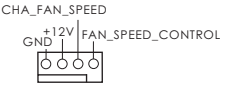
請將機箱喇叭連接到這個接頭。

電源指示燈接頭
(3 針 PLED1)
(見第 2 頁第 19 項)

請將機箱電源指示燈連接到此接頭，以指示系統電源狀態。當系統正在運行時，LED 指示燈亮。在 S1 模式下，LED 指示燈會不停閃爍。在 S3/S4 或 S5 模式 (關機) 下，LED 指示燈會熄滅。

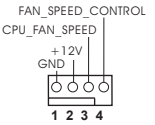
機箱，電源風扇接頭
(4 針 CHA_FAN1)
(見第 2 頁第 30 項)

(3 針 PWR_FAN1)
(見第 2 頁第 1 項)



請將風扇連接線接到這個接頭，並讓黑線與接地的針腳相接。

CPU 風扇接頭
(4 針 CPU_FAN1)
(見第 2 頁第 3 項)

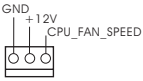


請將 CPU 風扇連接線接到這個接頭，並讓黑線與接地的針腳相接。

雖然此主板支持 4-Pin CPU 風扇 (Quiet Fan, 靜音風扇), 但是沒有調速功能的 3-Pin CPU 風扇仍然可以在此主板上正常運行。如果您打算將 3-Pin CPU 風扇連接到此主板的 CPU 風扇接口，請將它連接到 Pin 1-3。

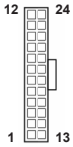
Pin 1-3 連接
3-Pin 風扇的安裝

(3 針 CPU_FAN2)
(見第 2 頁第 4 項)



ATX 電源接頭

(24 針 ATXPWR1)
(見第 2 頁第 7 項)



請將 ATX 電源供應器連接到這個接頭。

雖然此主機板提供 24-pin ATX 電源接口，但是您仍然可以使用傳統的 20-pin ATX 電源。為了使用 20-pin ATX 電源，請順著 Pin 1 和 Pin 13 插上電源接頭。

20-Pin ATX 電源安裝說明

ATX 12V 電源接口

(8 針 ATX12V1)
(見第 2 頁第 2 項)

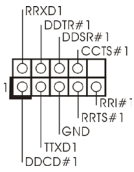
請注意，必需將帶有 ATX 12V 插頭的電源供應器連接到這個插座，這樣就可以提供充足的電力。如果不這樣做，就會導致供電故障。

雖然此主機板提供 8-pin ATX 12V 電源接口，但是您仍然可以使用傳統的 4-pin ATX 12V 電源。為了使用 4-pin ATX 12V 電源，請順著 Pin 1 和 Pin 5 插上電源接頭。

4-Pin ATX 12V 電源安裝說明

序列埠

(9 針 COM1)
(見第 2 頁第 26 項)

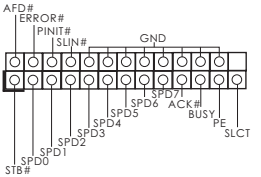


這個序列埠 COM1 支援一個序列埠的裝置。

機殼開啟警告功能接頭
(2 針 CI1)
(見第 2 頁第 29 項)

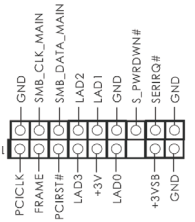
此主機板支援機殼開啟偵測功能，可偵測機殼蓋是否被移動。此功能需機殼具備機殼開啟偵測設計。

印表機接針
(25 針 LPT1)
(見第 2 頁第 25 項)



這是一個連接印表機的接口，方便您連接印表機設備。

TPM 接針
(17 針 TPMS1)
(見第 2 頁第 24 項)



此接頭支援信賴平台模組 (TPM) 系統，可確保儲存金鑰、數位憑證、密碼及資料的安全。TPM 系統也能強化網路安全、保護數位身分並確定平台完整性。

2. BIOS 訊息

主板上的Flash Memory晶片存儲了BIOS設置程序。啟動系統，在系統開機自檢(POST)的過程中按下 <F2> 或 <Del> 鍵，就可進入 BIOS 設置程序，否則將繼續進行開機自檢之常規檢驗。如果需要在開機自檢後進入 BIOS 設置程序，請按下 <Ctl> + <Alt> + <Delete> 鍵重新啟動電腦，或者按下系統面板上的重開按鈕。功能設置程序儲存有主板自身的和連接在其上的設備的缺省和設定的參數。這些訊息用於在啟動系統和系統運行需要時，測試和初始化元件。有關 BIOS 設置的詳細訊息，請查閱隨機支援光碟裡的使用手冊(PDF 文件)。

3. 支援光碟訊息

本主板支援各種微軟 Windows® 操作系統：Microsoft® Windows® 8.1 32 位元 /8.1 64 位元 /8 32 位元 /8 64 位元 /7 32 位元 /7 64 位元。主板附帶的支援光碟包含各種有助於提高主板效能的必要驅動和實用程式。請將隨機支援光碟放入光碟機裡，如果系統的“自動運行”功能已啟用，銀幕將會自動顯示主菜單。如果主菜單不能自動顯示，請查閱支援光碟內 BIN 文件夾下的 ASRSETUP.EXE 文件並雙點它，即可調出主菜單。

1. Penjelasan

Terimakasih untuk membeli papan induk penghasilan kontrol kualitas keras terus-menerus ASRock's yang dapat dipercaya. Dia dapat menyajikan pertunjukan baik dengan bentuknya sesuai dengan janji kualitas dan ketahanan ASRock's.
Buku Pedoman Instalasi Cepat ini mengandung perkenalan papan induk dan instalasi langkah-demi-langkah. Informasi lebih terperinci tentang papan induk ini dapat dilihat dalam buku tangan pemakai dalam Support CD.

Karena spesifikasi papan induk dan software BIOS barangkali dapat diperbarui, isi dalam buku pedoman ini akan mengikuti perubahan tanpa peringatan. Dalam kondisi terjadinya modifikasi buku pedoman ini, versi baru akan diperlihatkan dalam website ASRock tanpa peringatan lebih. Anda dapat mendapatkan kartukartu yang paling baru dan daftar bantuan CPU pada website ASRock.
Website ASRock http://www.asrock.com

1.1 Isi Paket

Papan Induk ***FM2A88M Extreme4+*** ASRock (Faktor Form Mikro ATX)
Pemimpin Instalasi Cepat ***FM2A88M Extreme4+*** ASRock
Support CD ***FM2A88M Extreme4+*** ASRock
2 x Kabel satu serial Data ATA (SATA) (bebas-pilih)
1 x Satu Pelindung I/O

ASRock Mengingatkan...
Untuk mendapatkan performa lebih baik di Windows® 8 / 8 64-bit / 7 / 7 64-bit, sebaiknya atur pilihan BIOS dalam Storage Configuration (Konfigurasi Penyimpanan) ke mode AHCI. Untuk konfigurasi BIOS, lihat "Panduan Pengguna" dalam CD dukungan kami untuk informasi rinci.

1.2 Spesifikasi

Podium	- Faktor Form Mikro ATX - Desain Kapasitor Solid
Podium	- Home Cloud
CPU	- Didukung untuk prosesor Socket FM2+ 95W/FM2 100W - Desain daya 4 + 2 fase
Grup Chip	- AMD A88X (Bolton-D4)
Ingatan	- Teknologi ingatan DDR3 dwisaluran - 4 x Alur DDR3 DIMM - Menggunakan DDR3 2600+(OC)/2400(OC)/2133(OC)/1866/1600/1333/1066/800 * DDR3 2600+ hanya didukung dengan dua DIMM. - Kapasitas paling banyak: 64GB - Mendukung Intel® Extreme Memory Profile (XMP)1.3/1.2 - Mendukung AMD Memory Profile (AMP)
Alur Ekspansi	- 1 x PCI Express 3.0 x16 slots (PCIE1: x16 mode) * PCIE 3.0 hanya didukung dengan FM2+ CPU. Dengan FM2 CPU, hanya mendukung PCIE 2.0. - 1 x PCI Express 2.0 x16 slot (PCIE3: x4 mode) - 1 x PCI Express 2.0 x1 slot - 1 x Alur PCI - Mendukung AMD Quad CrossFireX™, CrossFireX™ dan Dual Graphics
Diagram	- Grafis seri AMD Radeon HD 8000/7000 terintegrasi di APU seri A - DirectX 11.1, Pixel Shader 5.0 dengan FM2+ CPU. DirectX 11, Pixel Shader 5.0 dengan FM2 CPU. - Ingatan sama Max. 2GB - Tiga pilihan VGA Output: D-Sub, DVI-D dan HDMI - Mendukung Triple Monitor - Mendukung HDMI Technology dengan resolusi maksimal hingga 1920x1200 @ 60Hz - Mendukung Dual-link DVI-D dengan resolusi maksimal hingga 2560x1600 @ 60Hz - Mendukung D-Sub dengan resolusi maksimal hingga 1920x1200 @ 60Hz - Mendukung Auto Lip Sync, Deep Color (12bpc), xvYCC dan HBR (High Bit Rate Audio) dengan HDMI (memerlukan monitor HDMI yang kompatibel)

	- Mendukung Blu-ray Stereoscopic 3D dengan HDMI - Mendukung AMD Video™ 2.0 Tenang: Baru video pasca kemampuan pengolahan untuk pengurangan jutter otomatis pada rumah / online video - Mendukung fungsi HDCP dengan port DVI-D dan HDMI - Mendukung pemutaran 1080p Blu-ray (BD) dengan port DVI-D dan HDMI
Audio	- Audio HD 7.1 CH dengan Perlindungan Konten (Realtek ALC892 Audio Codec) - Mendukung audio Blu-ray premium
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Qualcomm® Atheros® AR8171 - Mendukung Teknologi Qualcomm® Atheros® Security Wake On Internet - Mendukung Wake-On-LAN - Mendukung Energy Efficient Ethernet 802.3az - Mendukung PXE
Papan Belakang I/O	I/O Panel - 1 x Port Mouse/Keyboard PS/2 - 1 x Port D-Sub - 1 x Port DVI-D - 1 x Port HDMI - 1 x Port Keluaran Optical SPDIF - 4 x Port USB 2.0 siap-dipakai - 2 x Port USB 3.0 siap-dipakai (AMD A88X (Bolton-D4)) - 1 x RJ-45 LAN Port LED (ACT/LINK LED dan SPEED LED) - HD Audio Jack: Penyuara Belakang/Pusat/Bass/Line in/ Penyuara Depan/mikropon
Penyimpanan	- 8 x penghubung SATA3 6.0Gb/s, dapat digunakan RAID (RAID 0, RAID 1, RAID 5 dan RAID 10), NCQ, AHCI dan fungsi fungsi “Hot Plug”
Penghubung	- 1 x header IR - 1 x port header Print - 1 x port header COM - 1 x Chassis Intrusion header - 1 x header TPM - 1 x header power LED - 2 x Penghubung KIPAS CPU (1 x 4 pin, 1 x 3 pin) - 1 x Penghubung KIPAS casis (4 pin) - 1 x Penghubung KIPAS Power (3 pin) - 1 x Penghubung power 24 pin ATX

	- 1 x Penghubung power 8 pin 12V - 1 x Penghubung audio panel dapan - 3 x USB 2.0 header (menggunakan 6 port USB 2.0) - 1 x USB 3.0 header melalui AMD A88X (Bolton-D4) (menggunakan 2 port USB 3.0)
Ciri-ciri BIOS	- 64Mb AMI UEFI Legal BIOS dengan dukungan GUI multibahasa - Menggunakan “Plug and Play” - ACPI 1.1 Compliance Wake Up Events - Menggunakan jumperfree - Penyokong AMBIOS 2.3.1 - Penyesuaian berbagai tegangan DRAM dan CPU
Sokongan CD	- Penggerak, kegunaan, Software AntiVirus (Versi Cobaan), CyberLink MediaEspresso 6.5 Trial, Google Chrome Browser dan Toolbar, Start8 (uji coba 30 hari)
Penjaga Hardware	- Perasa Suhu CPU - Perasa Suhu Casis - Pengukur Kipas CPU - Pengukur Kipas Casis - Kipas diam CPU/Casis - Kontrol Multi-Kecepatan Kipas CPU/Casis - Deteksi CASING TERBUKA - Penjagaan voltasi: +12V, +5V, +3.3V, Vcore
OS	- dapat digunakan Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
Sertifikasi	- FCC, CE, WHQL - ErP/EuP Ready (memerlukan catu daya ErP/EuP ready)

* Untuk informasi rinci, silakan kunjungi website kami: http://www.asrock.com